

The Dental Digest.

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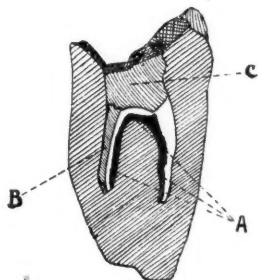
No. 2.

Original Contributions.

LIVE PULP AND GUTTA-PERCHA IN SAME PULP-CANAL.

By E. C. FRENCH, D.D.S., EAU CLAIRE, WIS.

A boy seven years old was brought to me to have the lower left first molar extracted. On examination I found the tooth very badly decayed, almost nothing left of the crown but the enamel, and the pulp hypersensitive. I applied an anodyne and dismissed patient for the day, requesting that he return the following morning, at



which time I made application for the devitalized pulp. The usual steps in pulp removal, cleansing and filling were taken with satisfaction to the operator and patient, and the latter was dismissed.

Nothing more was seen of him until five years later, when he returned with a badly swollen jaw and ulcerated molar. I found the second molar in place, so removed the first molar at once. I found a pus sac the size of a buckshot on the posterior root, but the anterior root was in a perfectly normal condition. The tooth was put aside for further examination, as I was anxious to know if I had been thorough in my root filling five years before.

Later in the day I placed the tooth on an anvil and broke it open with a hammer; it so happened that the root-canals in breaking were exposed to the apex of both roots, and the following interest-

ing condition of things was shown: The canals of both roots were bifurcated, and those in the posterior root, upon which the pus sac formed, were seemingly well filled to the apex with gutta-percha, but those in the anterior root contained healthy pulp tissue from pulp-chamber to apex. Into one of these last named canals I had forced a gutta-percha point so successfully that it was plainly seen at the apex of root, and yet with this point penetrating the entire canal the pulp tissue was in a normal condition. The other branch of this anterior root I probably had not disturbed when filling the tooth, and the pulp in it was normal. The pulp tissue extended over the bifurcation of the anterior root, and on top of this I had thoroughly pressed a large amount of gutta-percha, to entirely fill the pulp-chamber. The filling was carbolized when inserted.

You will see by the cut of anterior root the exact condition of affairs. A represents the pulp tissue, B the gutta-percha point, and C the gutta-percha filling pulp-chamber.

PRESIDENT'S ANNUAL ADDRESS.

By L. W. SKIDMORE, D.D.S., MOLINE, ILL. DELIVERED BEFORE THE FIRST DISTRICT DENTAL SOCIETY OF ILLINOIS, SEPTEMBER 14-15, 1897.

At the present time it takes considerable egotism on the part of the president of a dental society to willingly submit an annual address and there seems very little ground not covered by previous addresses. I will, however, offer a few suggestions which concern the growth of the society and of ourselves in the profession.

It is sixteen years since five or six dentists met in this city, and organized here the first local dental society in the state, outside of Chicago, and named it the Central Illinois Dental Society. By the organization of this society was set on foot the movement which resulted later in the formation of the Northern, Southern, Eastern and Western Dental Societies. The Central and Western were consolidated at a union meeting held in Galesburg, October 14 and 15, 1890, and the new society is now, as you all know, known as the First District Dental Society. So we have four active local or district dental societies in the state.

I am glad to note that dentists everywhere seem more alive to the value of local dental societies. During the last year there has been a movement started by the Chicago Dental Society, to organize Fellowship Dental Clubs outside Chicago. One has been started at

Milwaukee, Wis., and the second one in this city, Streator, where this society was originally organized. There are, I think, societies in Elgin, Aurora and Quincy, which were organized sometime ago. At my own home, in Moline, we have a society called the Tri-City Dental Society, which was organized by the dentists in Moline and Rock Island, and Davenport, Iowa, five years ago, and it has been in active operation since, holding monthly meetings alternately in one of the three cities. The idea of organizing Fellowship Clubs is a good one and could be adopted with profit in all towns having four or more dentists. I know the Tri-City Society has been of great benefit to those who have joined it, and there has been established a fraternal feeling among us, such as never existed before.

This society has gained a reputation for being thoroughly practical. Let us maintain that reputation, and in order to do so let each one take part in the discussion, and not leave it to a few. Respond promptly when called upon to help with the program, and to all calls no matter what. I heard Prof. A. O. Hunt, of Chicago, remark in a discussion, by way of encouragement to the younger members, who might feel they could not add anything new: "Make the attempt; a person of himself seldom says or does anything new, but old things are often presented in a new dress, and it is by contact with others that we both gain and impart knowledge."

Our attendance should be even greater than it is. Each member should make it a point to be present and bring someone who is not a member, and he may be induced to join. The reason why more dentists do not belong to some one of our dental societies is because they do not realize the great good to be obtained from such association, and so are contented to plod along in the same old rut. Others, who may intend to join sometime, remain indifferent unless their attention is especially called to it. Let us use a little personal effort in this direction and see what the result will be.

It is advisable, I think, for a young man after graduating, to join the alumni association of his college. He will thus be bound more closely to his alma-mater, and its influence will be for his good. He will then be more likely to get the society spirit and join his local or state society so soon as he is settled. Let him look around and see who are the most prosperous men in the profession. He will find it is the men who attend the meetings, and they usually read the most and are the best prepared to serve their patients.

The time has come, I believe, when a more brotherly spirit should be displayed by those older and longer established. Others have rights as well as ourselves and we are bound to respect them. No community belongs to one man by right of discovery or conquest. On the other hand, I would say to those starting in practice, make the acquaintance of the older practitioners and be agreeable. Do not belittle yourselves or your profession by doing cheap work, for any dentist who lowers prices for professional services advertises his own incompetency. Charge a reasonable fee for all operations performed and earn it. Uphold the prices in the places where you locate. My experience has been that people are always willing to pay a reasonable fee for faithful services rendered.

Assumption and advertising and mere appearances will not save those who do not grow and keep up with the profession, and even small fees will not long coax the patronage of the intelligent. Each year these dentists are less able to maintain themselves among us, because the public is becoming better informed.

We have laws governing the practice of dentistry and for the protection of the public, and it is well that we have; but I believe the laws of the different states should be made to conform, so that a legally qualified practitioner of one state may, if he so desire, move into another state and resume practice without being compelled to appear before a board of dental examiners. I think it is contrary to the constitution of the United States and should be changed.

CASE OF ELECTROPLATING.

By F. N. BROWN, D.D.S., CHICAGO

On April 16, 1897, Dr. H., a physician of Chicago, called. I found the right superior first molar capped with a gold shell crown, but lack of proper attention to the interdental space left a disagreeable opening between it and the second molar, which proved very annoying. The crown was removed, the tooth shaped up and a properly-fitting crown adjusted, also an open-face crown for the cuspid, as the two bicuspid were lost and we wished to replace them. On the 19th at 10 a. m. I inserted a small amalgam filling on the distal surface of the first molar, in the edge of a very large amalgam filling that had been in place for several years and was as hard as amalgam could possibly be. At 2:30 p. m. the same day I cemented on the bridge. On 21st and 22d I shaped up the lower left

second molar and second bicuspid. On 24th at 2 p.m. I cemented on this the antagonizing bridge. All of this time (five days) the upper bridge showed no signs of electroplating.

On Monday the 26th at 2:30 p.m. the Doctor called, stating there was something wrong with the gold I had put in his mouth. Upon examination I discovered the upper bridge to be beautifully electroplated a silvery white, and the lower bridge almost covered with the same deposit. The excursive movement, the bridges being in contact, caused a peculiar crepitating sound, as frequently heard in mixing fresh amalgam. It required nearly an hour to remove the plating, which was done with pumice and a soft wood point. Having two other bridges to insert on the opposite side of the mouth, I saw the patient on the 28th and 30th. On these dates there was a recurrence of the plating but of a lighter deposit, the lower bridge having ceased to plate. On May 3 the case was dismissed, feeling satisfied the electroplating had exhausted itself, which proved to be the case.

On May 20 the Doctor called, stating the upper bridge was loose and the molar painful. I removed the bridge and a wonderful state of affairs presented itself. There was not the least particle of cement to be seen. The large amalgam filling which was so hard and had been in for years, was now in a plastic cheesy condition and was readily removed with a spoon-shaped excavator; it had about the consistency of freshly prepared amalgam. A month had now passed since the bridge was inserted.

Some of the peculiarities of the case: The amalgam filling I had inserted was very small and located in the edge of the large filling, which occupied the entire distal and two-thirds of the grinding surface of the molar. The small filling had been in about four and a half hours before the bridge was cemented on.. The electroplating did not commence until the lower bridge was inserted, five days later. The platings continued for six days. The filling I inserted was on the distal surface; the platings would first show on the mesial, near the labial angle. After removing the plating you could see the deposit take place. Usually we see small nodules of cement remaining when a bridge or crown becomes uncemented, but in this case there was no cement whatever in the molar crown. The molar crown was electroplated on the inside, the open-face crown was not. There was an amalgam filling on the mesial sur-

face of the molar separated from the large amalgam fillings by dentin; this filling was not affected in the least.

I refilled the molar with amalgam, waited a day for it to harden, cemented on the bridge, and have had no further trouble with it.

IS THERE ROOM AT THE TOP?

BY LEE S. SMITH, PITTSBURG, READ BEFORE THE ODONTOLOGICAL SOCIETY OF WESTERN PENNSYLVANIA, SEPTEMBER, 1897.

The desire to succeed is deep-planted in every honest heart and shows itself in every phase of life, even cropping out in the youngest boy, as seen by our children endeavoring to make a fortune by selling lemonade at one cent a glass, or in some similar enterprise, and this desire to make money on the part of the young is not to be laughed at, as it is simply the outcropping of an element in human nature, that grows with our being and develops and expands with our aging. "The love of money" may be "the root of all evil," and yet; the possession of a sufficient amount of it is as necessary as is our breath. While the love of money and the hoarding of it are to be condemned, yet the honest desire to secure it for what good we may get out of, and by it, is commendable in all. If we stop to analyze money and the race to obtain it, in and of itself, it makes us laugh even at our own efforts in its pursuit. Yet the race goes on, cropping out now in this way, again in that, the appearance of one or another, so changed and disguised as scarcely to be at first glance recognizable, and yet resolving itself into the same old race, which has been going on since money, or its equivalent, was introduced.

A man once called upon a noted artist and asked to have a portrait of his father painted. "All right," said the artist, "when can I see him and have a sitting?" "Oh, he's dead," said the man. "Well, then, bring me what pictures you have of him." "But we have none," said the man. "Well, then," said the artist, "how do you expect me to paint a likeness of him? I never saw him." "Why," said the man, "did you not paint a picture of Moses?" "Yes." "Did you ever see him?" "No." "Well, then, can't you paint a portrait of pa?" "All right," said the artist; so after questioning regarding the features, hair, etc., he went to work. When the portrait was finished he sent for the man, who, when the curtain was drawn, looked at the picture for some time, then rubbing his hands over his eyes he said, "Yes, that's pa, but how he's changed."

So it is with our calling in life; call it profession or trade, be we merchants or what not, our object may be disguised or changed in one way or another, but after all it is the same, viz., a desire to secure our full share (and a little more) of the all necessary money. I would not be understood as meaning that this is, or should be, the chief end of life—not by any means. But the treatment of this subject is the chief end of this paper and I shall therefore seek to confine myself to a treatment in that direction and let your conscience prompt you to the higher and nobler aims of our being.

It has been said, "there is always room at the top," to which some poor unfortunate has answered, "that is small satisfaction to those at the bottom." We constantly hear it said that all departments are overcrowded, as well in the professions as in the mercantile world, the trades, or the breadwinners among laboring classes. While this saying is true, it is most emphatically untrue. It is true in so far as asserting that there is an overcrowding in the ranks of these different classes is concerned, so long as we count noses and not brains, so long as we consider numbers and make no distinction between ability and worthlessness. Yes, all callings are overcrowded with slush and so-called seekers after success, but men of ability, capacity and adaptability, men who are men and not mere machines, are just as much in demand to-day in all callings of life as they ever were. In other words, "there is always room at the top."

I was in the office of a friend of mine a short time since, a manufacturer worth a million or more, when he was speaking of his cares and his desire to unload some of his responsibility, and he said: "I do wish you would recommend to me a good reliable man who could and would take a real live interest in my business and relieve me. 'Why,' said he, 'my men are all mere machines, nothing more; they work by the clock. Six o'clock, go home. Saturday night, pay. That is all they think of or work for.'"

Do you think that an isolated case? Not by any means. It is the common rule. I have observed it as an almost universal condition of affairs through my business observation of thirty-two years.

Let me say most emphatically that I firmly believe if a young man who has the natural ability, or even an average capacity, secures a situation in almost any calling in life, and throws his whole being into his business, seeking not how little he can do for wages agreed upon, but trying in every way to study his employer's busi-

ness and interests, and seeking to anticipate his wants and relieve him of his cares, such a man will nine times out of ten find that "there is room at the top."

I recall and could name many young men of my acquaintance who have secured situations in stores, factories and workshops, sometimes aided by my own recommendation in their behalf, and to some of whom I talked by the hour upon the facts herein stated and emphasized, who stand to-day at the top, some as partners, others as head men or overseers; consequently in making these statements I am not advancing theories, I am giving you the simple truth as worked out in the lives of many known to and by me. I am not asking you to come up to a soda fountain to pay your nickel for a glass of sweetened wind, but I am offering you a drink of pure, distilled truth, free of charge.

If this is so in business, will the same rule apply to the professions, and especially to dentistry, for that is the branch in which we are especially interested? I say most emphatically, yes. There is just as much "room at the top" in dentistry to-day as there ever was. Then how can I get there, says the new beginner—what is the secret of success?

To answer these vital questions I will devote the remaining part of this paper, and for fear of wearying you I shall be compelled to treat the subject very briefly, and simply throw out hints in the form of a skeleton in outline, which I trust your good sense may be able to fill in and round out into a perfect model, which will enable you to reach that much sought after and desired place, "the top."

Much has been said and written upon the characteristics which should be possessed by a successful dentist, and much that I may say may be repeating, but truth cannot be too often repeated.

As every building depends upon its foundation, so success, even as looked at from a financial standpoint, depends first, last and always upon character, and here comes in the duality of true success and the necessity of considering something more than simply dollars and cents as the acme of being. And here also comes out another truth, viz., we may succeed in accumulating dollars in our profession as in any other calling, and yet not be at the top.

Only recently a member of the dental profession said to me: "Oh, well, after all dentistry is a trade rather than a profession. A dentist does not rank in society with other professional men." If

this is so, whose fault is it? I say it is the fault of the individual himself and not of his profession, and I say this without fear of contradiction.

There is no man, I care not what his calling, but whose rank in society is determined almost solely by himself. The man who wears clean linen, keeps his clothes brushed and his shoes polished, and walks erect, putting his heels down with a snap, both commands and demands the respect of his fellow men, by asserting his respect of himself. Then character enters in as an element of success in another way, viz., it secures the confidence of his fellow men, assuring them of his ability and disposition to carry out his contracts, no matter of what kind.

Much has been said as to the necessity of having and keeping a tidy, clean office and office furnishings, and when we remember the nature of the occupation of the dentist, and the fastidiousness of many of those from whom he must expect his best patronage, too much stress cannot be placed upon this subject.

Then again comes the necessity for thorough work. I mean by this, excessively thorough work. One object should ever be uppermost, and that is to make his patients think that in so far as their views and wishes are concerned, he is the best dentist in the world. This can be accomplished only by doing the best work that can be done, and done in the most easy and pleasant manner possible as to its effect on the patient.

Our professional relations with our patients are not of the most pleasant and agreeable at the best, but they can be much modified by gaining the implicit confidence of our patrons in our ability to do the best work, and to do it with the least pain.

The dentist who starts out with a firm determination to carry out all these necessary requirements, has thereby made a good start upwards, and yet there is another part that must not in any degree be neglected, if the upward march is to be sustained and the climb continued, and that is the business side of a professional life. A man may have the ability to make money, that is, to earn it, but if he lacks the prerequisite qualifications of managing his affairs in a business-like manner, he may utterly fail of real success. In this particular I am sorry to say very many otherwise able and worthy men fail, and especially so in the professions, and in ours fully as much as in any other.

plete set of books, render statements every month or quarter, as regularly as any business house; if not paid within a reasonable time, send a request for payment. If this be not heeded, have a call made. Nothing will aid you like establishing a reputation in this line, and it will be respected by all right thinking people.

But I must stop, not for want of thoughts, for this is a subject that is inexhaustible, but because I have taken all too much of your time already. If in these rambling suggestions I have thrown out any hints that will enable any of you to make an honest, earnest effort to scale the ladder of success, I can assure you you will certainly find that there is still "room at the top."

THUMB SUCKING.—The best way to prevent thumb-sucking is to wrap the thumb with gauze or soft cloth, and saturate it with some intensely bitter substance like bisulphate of quinine. Should this fail, the hands should be tied.—*Graham*.

SOME INTERESTING FACTS ABOUT SPONGES are given in a recent report on the sponge and oyster industries of Southern Italy. Science has declared that a sponge is an animal, and biologists have observed that though a living sponge is fixed and apparently motionless, the holes in the surface are capable of opening and shutting, and from the largest of them, when open, a stream of water issues which is supplied by innumerable smaller holes, generally invisible except under the microscope. Young sponges swim freely about by means of little waving hairs upon their surface, until they reach an age when they prefer security to independence and monotony to danger. They live on solid food; the water entering by the small pores passes through a system of branching and fine canals, and is collected again by a similar system into the outflowing current from the large holes. At the junction between the two systems of tubes are the most vital organs of the sponge, little swollen cavities of microscopic size walled in with tiny living particles, each bearing a vibrating hair with which it lashes on the current, and a transparent filmy skirt with which it catches any food that may pass. All this labyrinth of canals and cavities is living, soft flesh, set through and through with little flinty needles or thorns to prevent it falling a prey to the hungry creatures that exist in the water. The sponge of commerce during life shows only the largest of its numerous holes; over all the rest the dark slate-colored flesh forms a continuous film. In the ordinary course of sponge-fishing, the fisherman, having once secured his sponge, proceeds to prepare it for the market. The animal rapidly decomposes if exposed to the air, and therefore the body has to be rapidly beaten or washed in running water till the fleshy substances are thoroughly removed. If decomposition has advanced too far, no process is known by which the skeleton can be purified and rendered fit for use. The sponges, when cleaned, must be thoroughly dry before they are packed, otherwise they will develop orange-colored spots which the Greek fishermen call "sponge cholera."—*Pharmaceutical Journal*.

And in this part of a man's life, character is all important—yea, more than that, it is indispensable. How can I express myself, so that I may make you understand how absolutely necessary I consider proper care and qualifications in this direction? How shall I set up a model so that you may work by it? Let me try by laying down a few general rules.

First. Whether a man has a dollar in the world or not, from the very beginning he should make his word in all things as good as a bond. Never fail to keep a promise without a good and sufficient reason frankly and honestly stated.

Second. Live within your means. Never think that it is necessary to do as others do if you are not able. Such a course is the cause of more failures in life than any other.

I once asked an aged man for whom I had the greatest veneration, love and respect, a minister, how he managed to rear six children and always have food and clothes for them, upon the small salary he received. "Why," said he, "there is no secret about it. When we had money we bought, when we had none we managed somehow, we lived within our means and did not go into debt."

It is most deplorably true that many people think that professional men are all rich and therefore do not need money, and there are thousands who rank the dental profession among the bloated bondholders, and much of this opinion is caused by the exceedingly loose methods prevailing among professional men regarding the business side of their lives.

I have often heard dentists say, "such a man owes me a big bill, he is perfectly good, but I dare not ask him for it, for fear of losing his patronage." Now, that is just where nearly every one of you makes a grave mistake, looking at it even from a solely selfish standpoint. In the first place, there is no honest man but will respect you all the more for asking for your own, and more than that, there are many of the best business men who never pay bills except upon demand. True, this is not as it should be, but it is a fact, and facts are stubborn things. Then again, after you have worked for and earned the money it is yours, and you should have it. It is a deplorable fact that many a rich man has utterly failed in business simply because others had all his capital.

In this matter I would advise every young man, as well as old practitioners, to adopt strict business rules, to carefully keep a com-

to the ancient races with respect to physical development and stamina. That such is not the fact is proved by statistics of all civilized nations, which show that as civilization advances death rates decrease, longevity increases, and the people become better developed physically. Nevertheless, it is a well-known fact that certain ancient people were superior to the present generation in their physical proportions, but much of their superiority was due to the fact that they were continually at war with one another, necessitating the constant training of soldiers for conquest and self-defense. An instance of such a people may be found in the old Vikings, who were probably the most powerful and fearless warriors the world has ever known. From lack of civilization and scientific accomplishments they were unable to maintain themselves against depletion from warfare, disease and famine. The Romans and Grecians furnish us with abundant proof of the benefits of civilization upon the physical condition of the people. It is the study of their history that has been such a great help to the people of the present day, and yet their results were obtained without scientific aid.

If we are to accept the history of the ancient Semitic races given in the Bible as scientific, we find that many people attained the age of two hundred years or more. Abraham lived to be two hundred and five years of age. In his eighty-sixth year he became the father of Ishmael, and in his one hundredth year the father of Isaac. His wife Sarah was then ninety years of age, and lived to attain the age of one hundred and twenty-seven. Such instances of longevity are unknown at the present day, and it would appear that great changes have taken place in the constitution of the human race. Although we are at present making rapid progress in that direction, it does not seem probable that we will ever reach any such condition of life. The most remarkable cases of longevity among people of the present day are those of a family in Ohio, who average 110 years of age.

The mummified remains of the ancient Egyptians do not indicate any great physical superiority over the present generation. On the contrary, they were rather a small race of valley people, occupying the lower region of the Nile. The explorations of the ancient tombs of the Teutonic race show that they were no larger than their modern descendants, the Germans.

Height, weight and muscular power can be developed within the limits of racial type by favorable conditions. The inhabitants of mountain

Digests.

TRIBULATIONS OF EDITING. The definition of the transitive verb "to edit" includes the selection, preparation and revision of material for publication, and so opens quite a large field to the discrimination and labors of the editor. Much of the material sent in to journals for publication, and much of the matter collected by reporters from the proceedings of societies would be amusing, were it not pathetic in its varying degrees of value. Much of it has to be rewritten, much eliminated, and much is published with editorial hesitancy and a foreboding of coming evil.

It is difficult for those not actively associated with journalism to realize that much that is said and written on scientific subjects does not pertain to the subject under consideration, and in itself is of no value whatever to the disinterested listener or reader; and it is even more difficult for the editor to say just where the line can be drawn without fear of giving offense.

Let each speaker or writer confine himself strictly to the subject in hand; let him make all his statements in such a concise and lucid manner that their meaning is easily understood, and the value of their publication will be increased in proportion as will be lessened the labor of editor and wear and tear on his scissors and pencil.

These observations are prompted by the recent circumstance of a plaint of a well-meaning but supersensitive tempered member of an association, who, unfortunately, labored under the impression that having delivered himself of a disquisition on a special method of operation in which he prided himself, found that his remarks had been eliminated because they were not germane to the special subject of discussion. It was difficult with him, as it has been with many another enthusiast, without doubt, to appreciate the fact that "there is a time and place for everything," and that irrelevant remarks must be absconded at the stage of publication.—*Editorial in Pacific Medico-Dental Gazette, Jan. 1898.*

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INFLUENCE OF SCIENCE ON MODERN CIVILIZATION.
By Cecil Corwin, D.D.S., Oakland, Cal. Read before Pacific Coast Dental Congress, July 15, 1897. It seems to be the prevailing opinion at the present day that modern civilized people are much inferior

regions are always larger and more muscular than those of the same ancestry who inhabit the plains. We have to-day striking examples of the influence of topography upon a people. The Scottish Highlanders have for many generations inhabited a particularly high mountainous region where vegetation is scarce and great activity is required to maintain existence. The result is a race of people whose muscular development and traits of character are known the world over. The Germans, on the other hand, have mostly occupied level plains, and, as a result, they are short in stature and rotund in body. Transplanted into America, the English people have already assumed a type varying considerably from their cousins who have remained at home. The hardships to be met with in the settlement of a new country result in the increased stature and muscular power of the people. The average height of males in the United States is 5 feet 10½ inches; England, 5 feet 9 inches; France, 5 feet 4 inches; Belgium, 5 feet 6¼ inches.

During the civil war the largest and strongest soldiers were from the mountainous regions of Kentucky and Tennessee. They measured, on an average, 5 feet 9¼ inches in height. The Iroquois Indians (some five hundred of whom were included in the examination) averaged 5 feet 10½ inches in height. Next to these came the recruits from the Mississippi Valley, with an average height of 5 feet 8¾ inches. California has now taken the lead in these respects, having a climate which favors the development of large and healthy people.

Children of foreign parentage raised in America are taller and much better developed than those of the same ancestry who live in the old countries. Measurements have been made of school children of the United States and striking results obtained; one of these being that Oakland city school children starting at five years of age below the average size rise above it at the completion of the period of growth; while the children of St. Louis, starting above, fall below the average at maturity. It is certain, therefore, that in this vast country of ours, possessing as it does such a variety of climatic and topographical characteristics, the American people should become the most perfectly developed race on the face of the earth, under the influence of science. With such facilities for communication and travel as exists, we will not develop into numerous types corresponding to each section of the country, but, by migration and intermar-

riage, the best qualities of the race will be distributed. Indeed, investigation along this line is particularly fruitful of results. Tables of mortality show conclusively that death rates are lower and expectation of life greater in America than in any other country. In 1890, the death rate in America was 18 per 1000 of inhabitants; in England 20, and in Scotland 21. From 1880 to 1890, deaths of children decreased 15 per cent. The average age in 1880 was 23; in 1890, 25 years.

It has been the history of every nation that as civilization advances the size of the families decreases. Accordingly, we find that in 1880 the average for each American family was 5.09; in 1890, 5.04—showing a decrease of about 5 per cent for the decade. From the Massachusetts census it seems that the foreign-born married women have a larger number of children than the native-born married women, but that a greater proportion of them die. It is therefore manifest that, as the birth-rates are decreasing and longevity increasing, a greater number of children survive than formerly. The decrease of the birth-rates is an indication of advancing civilization rather than a degenerating tendency. From 1820 to 1830 the natural increase of Americans was 32 per cent. From 1880 to 1890, 14 per cent.

The introduction of physical culture into our schools has resulted in an increase in height, weight and muscular power of the students. Amherst college, in 1861, made physical exercise a compulsory part of the course. The following are a few of the facts deduced from a comparison of the data collected at different times: The average actual strength of students for the year 1887 to 1891 is 8.5 per cent greater than for the years 1861 to 1868. The average loss of time from sickness was 8 per cent less from 1885 to 1889 than from 1861 to 1865. Deaths from 1861 to 1870 (exclusive of those killed in the war) were 6 per cent of the whole number graduated. From 1881 to 1890 3 per cent of the whole number graduated.

That a sound body is necessary for a sound mind cannot be denied, and a civilization which overlooks the physical for the mental development would be laying itself liable to degeneration. Notwithstanding the many favorable results of the application of scientific investigations to the present generation, we are still confronted with serious conditions which menace the health and lives of the people. From the number of cases of insanity among men of busi-

ness who have broken down in the struggle to amass fortunes, it is fair to presume that the prominence given by Maudsley to eagerness to get rich as a cause of insanity is amply justified. He says: "The occupation in which a man is entirely engaged does not fail to modify his character, and the reaction upon the individual's nature of a life which is being spent with the sole aim of becoming rich is most baneful, and it is my firm conviction that it is extremely unlikely that such a man will beget healthy children."

The alarming increase of insanity in the United States is shown by the fact that in 1870 there were 37,000, and in 1890, 92,000 cases. The increase of crime is also an alarming condition. In 1880 there were 709 convicts in our prisons to every million of inhabitants. In 1890 there were 722 to every million, showing an increase of 13 to the million in ten years. Such conditions require the most careful application of scientific knowledge to eradicate them.

Science has done so much toward saving the lives of individuals who are not properly constituted to beget healthy, robust offspring, that it has increased the number of weak and deficient in the world to such an extent that the increase of crime and insanity has become a menace to organized society. Until applicants for marriage licenses are required by law to undergo a thorough physical examination and to show that no hereditary weaknesses are manifest, the evils to which I have referred will remain with us. Life insurance companies are carrying out this principle at the present day as the surest mode of protection. Why, then, should organized society as a whole allow its ranks to be filled with any and every class of humanity without a voice in the matter? It is a condition that does not exist in any other confederation. It is our duty then, as scientists, not simply to confine our studies to the narrow limits of our profession, but to make the more important general results profitable to the mass.—*Pacific Medico-Dental Gazette*, Jan. 1898.

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THE TREATMENT OF PULPLESS TEETH WITH DR. SCHREIER'S SODIUM AND POTASSIUM OR KALIUM AND NATRIUM. By L. D. Hodge, Arkansas City, Kan. Read at So. Kansas Dental Assn., Dec. 1897. It is prepared by taking two parts sodium to one of potassium in such a manner that it will adhere to a nerve broach. Potassium is a peculiar metal, forming the radical of potassa and a number of other medicinal preparations.

It is solid, softer and more ductile than wax, easily cut with a knife, and of a silvery white color. It possesses a remarkably strong affinity for oxygen and is capable of taking that element from almost every other substance. When thrown upon water it floats, takes fire and burns with a rose-colored flame, combining with oxygen and generating potassa, which dissolves in the water. Sodium or natrium is also a peculiar metal, forming the radical of the alkali soda. Its chemical affinity resembles that of potassium but is less energetic. Like potassium, it has a strong affinity for oxygen. When thrown upon water it instantly fuses into a globule without inflaming. Both metals were discovered in 1807.

In using Dr. Schreier's preparation always put the rubber-dam on, for fear of burning your patient. Open into pulp-chamber so you have free access to root or roots. Then with a warm instrument puncture an opening through the wax covering the sodium or potassium. Now take an iridio-platinum broach and introduce into the preparation—enough will generally adhere to your broach for one application. A good plan is to dry the thumb and finger: grasping the broach, you can draw the preparation to the end of your instrument that you may the easier introduce it in the root-canal. When you have introduced the preparation you will notice a slight explosion. On removing the instrument be sure and wipe dry before placing in the bottle. Follow the same treatment several times; then with cotton wound on a broach wipe out the root with warm water or pyrozone. After drying the root somewhat, repeat the treatment till you have the root comparatively clean.

Some fill the root at first sitting, but I prefer dressing the canal with oil of cinnamon, campho-phenique or eucalyptus, sealing the cavity and leaving for a few days. On return of patient it is a good plan to use the same treatment. If there is still soreness in the tooth I put off filling till another sitting. Two treatments will generally be sufficient, for in the first treatment you have burned up, destroyed and changed the contents of the root-canal till the odor has the smell of soap, and in using pyrozone you remove this odor and the root is sweet and clean. Having used this preparation since '93 I can recommend it in the highest terms.

The fundamentals of success in any operation upon pulp-canals are the positive removal of all putrescent pulp-canal contents, the sterilization of those canals, and finally the positive sealing of the

apical end of the canal with some mild non-irritating material. Sodium and potassium certainly do this. The foregoing treatment applies to blind abscesses, also to alveolar abscess with fistulous opening, except in the latter I force through the fistulous opening 1:2000 bichlorid mercury, also pyrozone, and fill root at once with chloro-percha, following this with gutta-percha points.—*Western Dental Journal*, Jan. 1898.

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THERAPEUTIC TREATMENT OF INFECTED TOOTH-ROOT CANALS. By George W. Warren, D.D.S., Philadelphia. Read before Odontological Society of Pennsylvania, Oct. 1897. It is my belief that the relative value of drugs cannot be dissociated from certain medicinal properties, and that these properties are not only determined by scientific investigations through experiments in the test-tubes in our laboratories, but in addition to this, and of greater importance, I should say, is the experience derived from the every-day practice of careful and studious practitioners. We all know that certain drugs, when surrounded by certain conditions, will give us certain definite results, but let us change the conditions, as from the test-tube to the root-canal surrounded by an inflammatory condition, and our results are often quite different. Now, I feel sure of my position in stating that it is the consensus of opinion with a larger number of teachers and experimenters that the agents we should employ in the treatment of putrescent root-canals should be (1) germicidal, (2) penetrating, and (3) non-irritating in their effect. And after a varied clinical experience I believe the essential oils more nearly meet these requirements than any other remedies we have at hand; notably, the oil of cinnamon, oil of eucalyptus, and oil of cloves. These oils have decided germicidal properties, are penetrating, and are mostly non-irritating to the tissue, and in addition, their viscosity no doubt prevents, in a measure, the passage of bacteria.

I will briefly give you a report of two selected cases illustrating the line of treatment which I have indicated. About three years ago a lady called upon me for treatment, who, in the pursuance of her profession, is required to travel from city to city during the greater part of each year, thus requiring and receiving attention from several dentists. She reported that the first inferior molar on the right side had for a long while been the source of much annoy-

ance. It had been treated by numerous dentists, would apparently return to the normal condition, but with every cold she contracted the alveolar inflammation would return. I inspected the tooth in question and found in it a large amalgam filling; while on the border of the maxilla immediately below and opposite the anterior root, was an inflammatory bunch, such as we have all seen, which seemed quite dense and sore to pressure. I removed the filling from the tooth, and from the roots took a quantity of cotton having a composite odor, in which I could detect that of creosote. I enlarged the canals slightly by means of drills, irrigated them thoroughly with peroxid of hydrogen and warm water, then introduced on a few fibers of asbestos a dressing of oil of cinnamon, closing the cavity with gutta-percha. The patient was visiting my office nearly every day for the week following, having a partial bridge denture inserted, which gave me an opportunity to watch the swelling disappear and the tissue return to a normal color and condition. At the close of her stay in this city she called, as I had requested, to have the tooth filled. I removed the dressing, dried the canals thoroughly with warm air, and closed the apical ends with a small point of gutta-percha; then filled the roots with oxychlorid of zinc, and closed the crown cavity with an alloy filling and dismissed the case. Now we have the most interesting and important part of the matter. After an absence of two years the patient again called upon me for services, and reported that this tooth had not given her a moment's uneasiness during her absence and had been quite as useful as any other of the similar organs.

Case number two is the treatment of the left superior lateral incisor for a lady forty years of age. It so happened that I was inserting an artificial crown on either side of the tooth mentioned, and it was the opinion of the patient that the diseased tooth should be extracted and the space bridged. This tooth had for many months troubled the patient, being somewhat loosened, and there being a slight discharge of pus through a fistulous opening on the gum opposite the apical end of the root. It had been treated in Chicago and in this city, the last dentist filling the root with gold. After securing the patient's permission to treat the tooth, I removed the gold from the canal, washed thoroughly with peroxid of hydrogen, then with my hypodermic syringe I injected oil of cloves into the canal until it ran out through the fistula on the gum; this was

followed by a few fibers of asbestos saturated with oil of cloves being placed in the canal and the cavity closed with gutta-percha. After remaining about three weeks without any evidence of a recurrence of the discharge of pus, the dressing was removed, and a point of gutta-percha was passed into and through the end of the root until it made its appearance at the gum surface, and the cavity filled with the same material. The patient then left the city for the summer months. Upon her return in the autumn I found that the tooth was entirely comfortable, quite firm, and that the tissues had settled down to a more normal condition, leaving the point of gutta-percha standing slightly above the surface; this point was then grasped with a pair of tweezers and twisted off at the end of the root. A permanent filling was then placed in the tooth, which has been a useful organ of mastication unto this time, there being no recurrence of the inflammatory condition.

In bringing these cases before you I do not present them as isolated ones, but as cases of frequent occurrence, illustrating, as I believe, the value of the essential oils in the therapeutic treatment of infected root-canals.—*International Dental Journal*, Jan. 1898.

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SYPHILITIC NECROSIS OF THE ALVEOLAR PROCESS.

By A. Berlyn, L.D.S., Glas. A. S., age 30 years, recently consulted me complaining of acute tenderness of his gums. On examining the mouth, I found the upper maxilla apparently quite healthy, with only four teeth standing, viz., right and left centrals and cuspids. In the lower jaw there was a different state of affairs—the molars and second bicuspid on either side had been lost, and those regions were also quite healthy, but in the region of the first bicuspid right to the first bicuspid left, where all the teeth were standing, a rather serious condition of affairs presented itself. The gum was acutely tender, very highly inflamed, a thick yellow pus was welling up round the necks of the teeth, which were all more or less loose, while the alveolar process appeared to be in a soft spongy condition. On inquiring into the patient's history, I found that three years ago the patient had had a severe attack of syphilis, and being a chemist's assistant, he had continually dosed himself with large quantities of mercury, in the forms of hyd. cum creta, hydrarg. iodi. rubri, and hydrarg. iodi. viridi, until he became thoroughly salivated, and had lost the twenty missing teeth without operative assistance. The patient then ceased

mercurial treatment and placed himself under large doses of pot. iod., which he continued for some considerable time. When patient consulted me he was in a very low and weak condition, in fact bordering on a state of collapse, with little or no appetite, the breath very foul and fetid, and completely broken down with agony of mind. Hoping the sequestrum would separate itself, and not wishing to operate upon the patient while in his then low debilitated condition, I placed him under strong tonic treatment, stopped all mercury and pot. iod., which he was still taking alternately, and proceeded to treat the disorder with strong antiseptic and astringent lotions. I scarified the gums, which bled profusely; daily syringed with pot. permang. and zinc lotions, most carefully and minutely cleaned each tooth, daily swabbed and cleaned round the necks of the teeth with peroxid of hydrogen, but all to no purpose, for the disease appeared to be spreading beyond control. I then decided to operate, and had the patient placed under chloroform. Having removed all the teeth remaining in the lower jaw, I proceeded to separate the gum completely from the inner and outer margins of the alveolar process down to the maxillary bone. The condition of the alveolar process when exposed presented a soft cheesy substance, which I scraped away with a sharp spoon so completely as to leave the lower maxillary bone completely bare; I replaced the flaps of gums and prescribed the following mouthwash: Zn. chlor., grs. vi.; zn. sulph., grs. iv.; morph. acetat., grs. ii.; aq. ad., $\bar{\text{z}}$ viii.; as also permanganate of potash. Within three days the mouth was well healed, and no trace whatever of any suppuration and but very little tenderness. Within a month from the date of operation I made the patient a temporary lower denture carrying twelve teeth, which he is now wearing with perfect comfort and with no trace or sign of any further trouble or irritation. The case is interesting, as showing not only the danger of large doses of mercury, but also that where proper aseptic conditions are observed there is no need to wait for voluntary separation of the sequestrum, but rather to proceed to operate at once.—*Brit. Jour. Dent. Sc.*, Jan. 1898.

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FORMALDEHYDE IN SOLID FORM. By William Rollins, D.D.S., Boston. As you have considered formaldehyde of sufficient interest to dentists to publish a long article from one of the medical magazines, you may possibly find room for a short note on

one of its dental applications. If we make a very strong aqueous solution of this gas, part of it slowly assumes the solid form and is precipitated. When this is dried and the pulp-chamber in a tooth filled with it, after a time it is all reconverted into a gas and thoroughly disinfects the whole tooth. If there is any abscess at the root, by sealing in the solid formaldehyde with cement most of the gas escapes through the abscess, which soon yields to the treatment, which should be renewed every three days as long as required. An extended use has shown me the value of this treatment.—*International Dental Journal*, Jan. 1898.

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SOURCE OF IRRITATION. By L. P. Haskell, D.D.S. Some years ago I heard Professor Ford lecture upon the bones of the head. In the course of his remarks he said, "I will show you where absorption of the lower jaw has taken place to such an extent as to bring the mental ganglion to the surface of the jaw, instead of a half inch or more below it as when the jaw is in its normal condition." He showed a lower jaw with the opening directly on top. This explained what to me had been a mystery in several cases, where there was a very small spot in that locality (the region of the second bicuspid) which was excessively sensitive. Since then I have had several similar cases, one of which was in my office this morning. The only thing to be seen is a white spot about the size of a pin's head. They have always occurred upon the right side in my experience, a singular fact.—*Ohio Dental Journal*, Jan. 1898.

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UNIQUE METHOD OF BACKING A TOOTH. By W. A. Siddall, D.D.S., Cleveland. I was showing my brother a method of soldering into a bicuspid gold crown a porcelain facing without investing. Having made a die on which to swage the backing I was looking around for a piece of soft wood to use as a counter die, when my brother handed to me a piece of rubber to use instead. He suggested at the time that possibly the backing might be swaged directly onto the tooth with rubber. It was not tried and nothing further was said or thought of it then.

About ten days later, having occasion to make one of these crowns, it occurred to me to try to swage the backing in this way. I cut out my backing, made holes for the pins, cut the pins short, placed the backing on the tooth and laid the tooth buccal side down

on a piece of soft pine. I then took a piece of car-spring rubber an inch thick and placed on the tooth and struck it two or three sharp blows with a hammer. I found that the porcelain was not fractured and that the backing was driven to fit quite well. The next time I placed the tooth on a steel anvil, placed my rubber over it and found that I could strike it with a heavy hammer without breaking the porcelain, and the backing fits—well, like paint fits a board. It is safe to lay the tooth on an anvil or hardwood board if be a *thick* tooth and there is not much convexity of the buccal surface—but if the facing is thin and the buccal or labial surface is quite convex, place it on soft wood or even on another piece of rubber. With a thick facing 22k. gold, No. 28 in thickness, has been driven down to fit absolutely, though of course a thin backing of platinum or pure gold answers just as well and requires less force. The rubber may vary somewhat in elasticity, but a little experience will enable one to ascertain what strain a porcelain will stand and amount of force required to make the backing fit.—*Ohio Den. Jour.*, Jan. 1898.

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EXSECTION OF THE SUPERIOR MAXILLARY NERVE, OLD AND NEW METHODS. By H. L. Ambler, D.D.S., M.D., Cleveland. Looking at the anatomy of the fifth pair of nerves, we find that the true origin is in the pons as far back as the lateral tract of the medulla oblongata; it is the sensitive nerve of the head and face, and the nerve of motion for the muscles of mastication. The superior maxillary nerve (second branch of the fifth pair) has two roots, a sensor and a motor; it arises as a flattened band from the middle of the Gasserian ganglion, and passes forward over the greater wing of the sphenoid bone, until, reaching the foramen rotundum, it leaves the cranium and presents itself in the sphenomaxillary fossa, from which it passes through the sphenomaxillary fissure to the orbital cavity, where being lodged in the infraorbital canal, it continues forward to the infraorbital foramen and to the points of ultimate distribution. The Gasserian ganglion is a reddish gray knot about the size of a buckshot, and envelops the posterior root of the fifth pair of nerves; it lies in a slight depression on the anterior face of the petrous portion of the temporal bone. It is outside of the dura-mater, although covered by a reflection from it, and is in immediate relation with the internal carotid artery. In the sphenomaxillary fossa, the superior maxillary nerve gives off

the posterial dental which supplies the molar teeth, and about midway of the infraorbital canal it gives off the anterior dental which supplies the incisors, cuspids and bicuspsids. In addition to the above the superior maxillary nerve supplies the integument on the side of the head, Meckel's ganglion, with sensor filaments, antrum, orbicularis palpebrarum, integument and conjunctiva of the lower eyelid, muscles and integument of the nose, muscles integument and mucous membrane of the superior lip, and the labial glands. Associated with the fifth nerve are six ganglia, viz.: Gasserian; Ophthalmic; Meckel's, or sepheno-palatine, triangular and reddish-gray; Cloquet or naso-palatine, small and oblong; otic; submaxillary.

From the above anatomy we can understand that in exsection of the superior maxillary nerve we might have slight paralysis of the orbicularis, lower eyelid, or side of nose, owing to the close connection with the nerves of sensation; also if the nerve is not exsected far enough back, then only the anterior teeth will be relieved from neuralgia. An operator would hardly be justified in making an exsection, much less in removing the Gasserian ganglion, without previous practice on the cadaver.

It will be observed that the infraorbital foramen points obliquely upward and outward, and that the infraorbital groove and canal are both in the maxillary bone. In making neurectomy of this nerve, the speno-maxillary fossa is entered either from the zygomatic fossa, or by removal of its anterior boundary, which is the posterior wall of the antrum. It is taken for granted that a diagnosis has been made of a lesion affecting a nerve trunk or center; the possibility of the disease having a peripheral cause has been excluded, and it is desirable that no external cicatrices should be left; this necessitates operating through the mouth; therefore, anatomical knowledge, delicate skill, and the sense of touch, must be well developed; however, external incisions may not leave very unsightly scars, and with proper antiseptic treatment, should heal by first intention.

Knives, mallets, forceps, chisels, gouges, saws and scissors have been largely superseded by the surgico-dental engine, and this has been brought about through the influence and inventive genius of such [dentists as Garretson, Bonwill, Cryer, Brophy, Marshall and Curtis. The engine can be driven by a hand-crank or electricity, and is made somewhat heavier than the ordinary dental engine; in it can be used saws from one-half to three inches in diameter; also

any form or size of bur or drill; from one to ten thousand revolutions can be made per minute with regularity and steadiness, and operations can be made with easy and greatly diminished risk.

Cryer says: "In operating with either saw or bur it is well to have a large bottle filled with antiseptic fluid suspended above the operating table, allowing the liquid, by the aid of a small tube, to flow over the parts while operating, thus preventing the bur from clogging, as well as keeping the parts free so that the operator can see just what he is doing."

In addition, we would suggest the use of a small rubber disk or cup over the end of the hand-piece in order to prevent moisture from entering it. Years ago Dr. Garretson realized that the manner of making surgical operations on the mouth, jaws, face and head was not satisfactory to the surgeon or patient; he knew that the trained dentist, with his manual dexterity, could adapt his methods and some of his appliances to surgical work on the above parts; he was among the first to use the engine in operations upon bone, and he found as others have, that it was of the greatest practical assistance. This is a surgical engine, because it is nearly a duplication of the human arm and hand. In plastic surgery, wherever tissues are to be united, there is no loss of substance and success is more certain when the engine is used. In the bones, whether taking away the whole shaft, leaving nothing but the periosteum, there is no necessity for opening into the bone further than merely exposing for access, thereby saving the severing of arteries or nerves; it can be used in fractures of the patella without opening into the membranes; in fractures of the skull the parts can be elevated without trephining; the vault of the cranium can be entered at any point without danger of injuring the dura mater; the superior or inferior maxilla can be removed without other access than by the mouth. With Cryer's engine osteotome any desired section of the skull can be removed without injuring the dura mater.

Operations on the jaws should, as far as possible, be made within the mouth, avoiding external incisions, and with the engine it is not necessary to remove as much tissue; thus healthy tissue can often be saved to assist in bringing about a normal restoration of function.

Resection of the second branch of the fifth pair of nerves was first practiced in this country by Dr. Carnochan, who commenced the operation by making a Y-shaped or curvilinear flap exposing the

anterior wall of the antrum which was penetrated with a trephine, a smaller one being used to remove a portion of the posterior wall. The speno-maxillary fossa was thus exposed, where the nerve was found and as much of it excised as possible. In seeking for the nerve in the fossa great care should be exercised, as it is desirable to have healing without degeneration or destruction of tissue.

Pancoast's operation consisted in making a trap-like flap across the ramus of the lower jaw; this was raised and reflected, the masseter muscle shaved from its attachment, and the coronoid process exposed and sawed off at its root and removed after detaching the temporal muscle; the muscle is thrust upward exposing the zygomatic fossa, across which, but overlaid with some fatty tissue, passes the internal maxillary artery which should be ligated; the external head of the pterygoid muscle is then detached from the great ala of the sphenoid bone; push aside any soft parts, staunch the hemorrhage, thus exposing the nerves of the speno-maxillary fossa, which may be excised with a pair of curved scissors.

Stoker's operation consisted in closing the eyelids by a single stitch passed one-quarter of an inch from their ciliary margins; this fixes the parts and prevents irritation; a curved incision is carried along the lower edge of the orbit and parallel to it, including the periosteum; an incision connects this with a point over the infra-orbital foramen. The nerve and artery are found and separated, the nerve is clamped in a pair of forceps and divided distally. The periosteum of the orbit is next raised from its floor with a flat director, care being used to prevent tearing, as it is very thin, and tearing complicates the wound and results. The contents of the orbit are then raised from its floor by a retractor in the hands of an assistant and the canal laid open by a pair of bone forceps. The nerve is lifted out and detached back to the point of exit from the foramen rotundum. (When excised here Meckel's ganglion would be removed.) It may be cut or avulsed; the latter is preferable, as it may influence a seat of disease higher up.

Dr. Cryer operates, viz.: The eyelids are closed by a single suture, and a curved incision made along the infraorbital ridge to the bone; then a vertical cut downward to the infraorbital foramen; spreading the soft tissue, remove the periosteum from the bone covering the canal, and secure the nerve with a ligature; then pass a dental pulp-canal plugger into the foramen over the nerve, as a director and

guard along the canal until the point is in the orbit. By using a bur in the engine the bone of the roof of the canal can be quickly cut down to the protecting plugger, when the nerve may be lifted from the canal intact. Now pass the nerve with the attached ligature through the opening of a neurotome, which must be worked backward as far as possible; then holding the nerve tightly, revolve the cutting portion of the neurotome and the nerve will be severed close to the spheno-palatine ganglion (Meckel's).

Dr. Cryer makes another operation which he describes, viz.: Make a trap-like opening exposing the greater portion of the anterior face of the superior maxillary, find the foramen and secure the nerve as before, then with a bur in the engine remove a portion of the face of the bone immediately below the foramen, thus opening the maxillary sinus. Control hemorrhage as far as possible, and again using the engine, open through the inner and superior portion of the posterior wall of the antrum and enter the spheno-maxillary fossa, thus exposing the ganglion. By passing a long delicate pulp-canal plugger below the nerve as a means of protection from the engine bur, the bone of the floor of the canal may be cut away, using a long-shanked bur. After the floor of the canal has been removed, the plugger may be withdrawn and the nerve dropped into the antrum and passed through the fenestrated opening of a neurotome large enough to include Meckel's ganglion; pass the neurotome backward to the foramen rotundum, keeping the nerve tightly drawn, revolve the knife, sever the nerve and pull it away. Dr. Cryer has devised a neurotome which works admirably in these cases.

Dr. Garretson operated, viz.: Place the patient on a pallet and etherize, expose the anterior face of the antrum by a trap cut in the cheek, which trap may be triangular with a limited vertical cut reaching downward, or it may open toward the eye, thus exposing the branches of the infraorbital nerve which is to be dissected, caught by a forcep and held out of the way. Hemorrhage being controlled by ligatures, styptics, etc., the face of the antrum is cut away by use of a bur in the engine. With the nerve secured as a guide, the floor of the infraorbital canal is cut away and the nerve followed along the floor of the orbit. The posterior wall of the antrum reached, the bur is passed backward through it, the nerve still being preserved intact; remove with the bur enough of the posterior wall of the antrum to expose the spheno-palatine fissure; here the nerve is found

and passed through a neurotome which is pushed back to the foramen rotundum where the nerve is severed. Care is required to avoid cutting the nerve prematurely by the revolving bur.

In cases of neuralgia the ganglion of Gasser can be removed. This operation is comparatively new. Rose's operation consists in exposing the oval foramen and trephining its seat so as to expose the ganglion. Laplace makes his exposure over and around the ear. Horsley reflects a flap both of soft part and bone from the super-zygomatic region and seeks the ganglion by pushing the finger along the side of petrous portion of the temporal bone. Dr. Andrews of Chicago has been successful in making this operation.

Dr. Garretson operated, viz.: Make a semilunar incision reaching an inch upward and one and one-half inches at base, this base to be the upper border of the zygoma; dissect up the flap thus exposing the bone, trephine, and with an osteotome saw out the vault of bone, force the bone outward breaking its base. The dura thus exposed, the fingers are delicately insinuated between the membrane and cranial floor and pushed inward until the ganglion is reached. Exposure of the ganglion is made by incising the envelope of dura which incloses it, care being taken not to wound the carotid artery; hook up the inferior maxillary nerve and cut at the point of passage through the oval foramen. Seizing the nerve cord, the ganglion, the upper surface of which adheres slightly to the dura, is pulled as freely as may be from its bed and cut or scraped away. The ganglion being removed, the bone and scalp are put back in place after carefully washing away all sawdust. A tent for drainage can be inserted in the trephine cut.—*Ohio Dental Journal, Jan. 1898.*

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ADAPTATION AND RETENTION OF ARTIFICIAL DENTURES. By A. O. Hunt, D.D.S., Chicago. Read before the Odontological Society of Chicago. While this is an old subject, yet it is new and will continue to be so until there is some better agreement as to the principles involved in the operation, and they will not be well established unless they are based upon actual conditions present in mouths. They must also be broad enough to apply to all the variations that present themselves.

Atmospheric pressure is one of the forces claimed as being essential in retaining the dentures, the pressure being produced by a central chamber in which a vacuum is produced. The force

exerted is estimated to be from a few ounces to fifteen pounds to the square inch. This claim is entirely faulty. A vacuum cannot be produced in this way, and if it could, would be of only very short duration. Again, if it were possible to get the benefit of such force, it would be better to have it extend over the entire surface of the denture than to confine it to a small central area. Still further, it cannot be applied to lower dentures successfully.

Capillary attraction or adhesion is another force mentioned as all important in the retention of the denture. As whatever force of this character that might be utilized is based upon the laws of cohesion and adhesion, the limit of its operation is so small that it would be insensible in an artificial denture. If, however, the force was greater, it would be better that it should apply to the whole surface than to a part of it.

The conditions presented in the upper jaw are peculiar many times. The idea that a mouth that is flat is more difficult than a deeper one to secure good results should not be entertained. In general, in from six months to a year after the loss of the teeth, there are not so many difficulties in the way of good results. After a denture has been worn for a long time with only a partial antagonism with a few opposing teeth, the difficulties are multiplied. So also when the mouth is edentulous and no denture has been worn.

When the best model obtainable is at hand, a careful digital examination should first be made of the surface of the mouth, to locate and define the depth and form of the soft spaces within the area to be covered by the plate. These spaces and their form and depth should be outlined on the model, the depth indicated by figures, as it varies greatly in corresponding locations in the same mouth. The *model* should then be scraped away in various places to proper depth so that denture will bear evenly over its whole surface, keeping in mind that the central or palatal portion will not change materially while the alveolar ridge is constantly changed by resorption.

For the upper jaw there are five localities where the denture will find a firm and reasonably permanent rest without undue pressure on the parts—the palatal surface, two on the labial surface immediately over the region occupied by the cuspids, and two over the malar processes extending to and above the maxillary tuberosities.

For the lower jaw there are four localities for a firm rest for the plate—two on the labial in the region of the cuspids and two on the

posterior buccal margins between the summit of the alveolar ridge and the attachment of the buccinators to the inferior maxillary, The greatest interference with a denture being retained in its place, as they are usually constructed, consists in the action of the muscles upon the margins of the plate to push it either up or down as the case may be, or oftentimes the posterior margin of the upper one extends up on the soft palate and is thrown down by its movement; or in the lower denture the posterior ends of the plate are so long that in opening the mouth the stretching of the tissues in front of the ramus move it forward.

While all the muscles may throw a denture out of position, yet by a proper form of the margins, some of them may be utilized as the most important force for retention; notably the buccinators and the orbicularis oris. A careful examination of the attachments of these muscles should be made, and in shaping the margins their movement should be opposed to each other in such a way that they will be compressed upon the denture and hold it firmly. If improperly made the patient never gets the use of dentures until they learn to hold them in place by the buccinators assisted by the tongue and the orbicularis oris.

With an even pressure over the entire surface of the plate in contact with the mouth, a free movement of the anterior frenum and the anguli oris muscles, the anterior border of the buccinator, the compression of the buccinator at the posterior borders and the compression of the orbicularis oris at the anterior portions, a free movement of the lingual and sublingual muscles on the interior surface of the lower denture, with plenty of room for the tongue, accompanied with a stable pressure on the hard or permanent parts of the mouth, will produce a perfect adaptation and retention of an artificial denture.—*Dental Review*, Jan. 1898.

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NOTES ON A CASE OF COMPOSITE ODONTOME. By Mr. Russell Barrett. Read before Odontological Society of Great Britain. The patient, aged 23, came to the Dental Hospital of London, July 3, when I saw him for the first time, complaining of pain and swelling of the right side of the lower jaw.

Previous History. Three weeks ago the patient had severe pain in the right side of mandible. He put on poultices to his face and a large swelling arose. He bore this for one week and then went to

his doctor, who lanced the gum; this gave him some relief and he went on without further advice until coming to the hospital. Has no recollection of any enlargement or swelling of the jaw previous to the three weeks, and has never noticed any undue prominences about the right side of his face. Cannot remember having had any teeth extracted on that side, and does not know any teeth are missing.

Present Condition. Patient thin and looks very ill and worn out by pain. Has well marked swelling over angle of right side of mandible and has slight trismus. On examining the mouth the second bicuspid and second and third molars are missing. There is great expansion of the jaw behind the first molar, and on the surface between masses of granulation tissue a rough, gritty substance resembling necrosed bone can be seen. On probing one can define a portion of the anterior and external borders.

I diagnosed the growth as an odontome, and after waiting for a model to be taken I asked Dr. Buxton to give the patient gas, and removed the mass with an elevator. It came away after some difficulty, with a considerable amount of the capsule attached to it.

The cavity was syringed out and packed with iodoform gauze, and the patient was told to come on the following Monday to have it repacked. On July 10, a week after the operation, on taking out the packing the crown of a molar tooth could be seen at the bottom of the cavity. I have seen the patient lately and the tooth is gradually rising to the surface; it will, I think, ultimately come into place and be of use to him.

The odontome is a rough, nodulated, irregular cube, measuring $\frac{7}{8}$ inch antero-posteriorly, $\frac{3}{4}$ inch from above down, and $\frac{11}{16}$ inch across. Weight, 102 $\frac{1}{2}$ grs. On the anterior surface it has a well-marked groove, where it has molded itself around the root of the first molar, and on its under surface is a deep pit from absorption caused by pressure of the erupting tooth. The capsule under the microscope presents nothing but a fibro-cellular appearance. The growth itself is composed principally of hard and osteodentin, along with enamel. The enamel is distributed in a most peculiar manner, as it forms a lining to numerous tubes which permeate the growth.

I have read several books in the hope of finding something with regard to the growth of these tumors, but have been able to find only that they are due to aberrations of the tooth germs, and that during growth they give rise to no painful symptoms.

If this growth is an aberration of the germ of the second molar, it should have commenced to calcify at the fifth year, and have finished calcifying at the seventeenth year. The patient, however, says that neither he nor any of his relations had at any time noticed the swelling and undue prominence of the angle of the jaw; it seems almost incredible that such a disfigurement as was present should have been unnoticed for so long.

I should not like to suggest that the tumor grew in the short time the history extends over, but I think it was more rapid in growth than is usually the case with these odontomes. Three things seem to point to this conclusion: (1) The molding of the anterior surface around the root of the first molar. (2) The structure of the growth. The dentin is full of interglobular spaces, and the enamel is darkly stained and unfinished looking. (3) The enlargement of the angle of the jaw not having been noticed until recently.

Cohnheim's theory, that all tumors are due to developmental faults, seems to me to be well borne out in the growth of odontomes. He supposes that more cells than are necessary for a part are produced, the surplus remaining in an embryonic state until called into activity by some irritation or increased blood supply. A large proportion of tumors also occurs where the developmental process is complicated; as where two layers of the blastoderm join in the formation of an organ. All these conditions hold good in the formation of an odontome; and it seems to me more probable that a portion of the "tooth band" should have remained as a "resting spore," and ultimately formed the odontome, than that an ordinary tooth germ should have become so complicated.—*Brit. Jour. D. Sc.*, Jan. 1898.

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PATENTS AND ETHICS. By J. A. Chapple, D.D.S., Atlanta, Ga. So much has been said and written in late years derogatory of patents as applied to dental appliances, that one is inclined to drift with the current of popular opinion and add his mite to indiscriminate denunciation. It is possible this prejudice had its inception during the reign of the Goodyear Vulcanite patent, an octopus whose cormorant greed was indeed severely felt by the profession. But we are not disposed to visit the sins of the Goodyear patent upon those now in the market. On the contrary, a casual reflection upon the subject has forced the conclusion that the patent laws have contributed more to the benefits of the profession than all other forces combined.

When we affirm this proposition we must not be understood as indorsing patents as applied to certain methods or modes of practice, but to appliances only.

Now and then the public becomes the beneficiary of some genius who is satisfied with the compensation which accrues to him in the form of public indorsement. But it is the hope of material reward which has been the main incentive to at least ninety-nine one-hundredths of our most valuable inventions. The introduction of the engine, electric and mechanical mallets has made it possible to accomplish more in a given time and with corresponding remuneration. No one will attempt to controvert this proposition, or charge the patentees as mercenary or unethical. And if they are now living in the enjoyment of their well-earned reward, where is the man who would pluck one iota from their achievements or one cent from their exchequer?

Every one admits the great value of the dam; and if an inventor was ever justified in claiming a patent, Barnum was preeminently that man. But doubtless sensitive to the criticism of the so-called ethical class, he gave this almost incalculable boon to the profession, receiving as his final reward the expense of a burial at the hands of his beneficiaries! The fact must not be lost sight of, that while the principal patentees of dental appliances added to their own bank accounts, they also contributed at the same time to the *arts* of dentistry and to your bank account as well.

Improved instruments, of necessity, bring about new methods, and these in turn have enabled the operator to charge a fee corresponding to his outlay of money and mental effort. An office minus all modern appliances is soon shunned by the public, and justly regarded with suspicion. The intelligent patient expects to find you equipped with the latest adjuncts to your business, and is willing to pay for the benefits therefrom.

And now that we are discussing a very practical question, the natural query arises, Who pays for these patented appliances? We answer, the dear public. It is useless to try to conceal the impression which prevails throughout the profession, that the manufacturers are the largest gainers of patented appliances, and that the dentist alone is the principal contributor. We are not in the confidence of the manufacturers, nor are we posing as their champion defender, but as we remarked in the beginning of this article, we have

given this matter some investigation, and the truth demands that we "render unto Cæsar the things that are Cæsar's."

The uncertainty of the value of, and usually high price asked for a patented article deters the manufacturer from exclusive ownership. The patentee must assume some risk, and he does this upon the basis of a percentage, or what is commonly known as a royalty, the manufacturer realizing a reasonable profit upon the article made. When the demand for the article proves exceptionally great, as a matter of course, the manufacturer reaps a corresponding benefit, *but so does the purchaser.*

As will be readily seen, we have made no attempt at elaborate argument to sustain our position, but simply touched upon those points which naturally suggest themselves. In conclusion, we have no doubt but what this artificial sentiment regarding dental patents has deterred many from entering the inviting and fascinating field of invention. Considering the rapid strides made in dentistry by reason of improved appliances, the profession can well afford to modify its attitude toward patents, and instead of indiscriminate condemnation, should encourage and foster the genius whose ambition and necessities may yet evolve the crowning glory of dental art.—*American Dental Weekly, Dec. 1897.*

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NATIONAL HEALTH LEGISLATION. The recent epidemic in certain parts of the south has directed public attention to the necessity for broader and more efficient regulations for the protection of the public health. Many objections that were formerly urged against the proposition to place the quarantine power wholly in the hands of federal officials have been withdrawn, and that section of the country which heretofore has most strenuously opposed federal control has now asked congress to provide such control. The bill recently introduced by Mr. Caffery of Louisiana in the United States senate is in response to this demand.

For several years the medical and pharmaceutical press, and medical, pharmaceutical and other organizations have labored to create a sentiment favorable to the establishment by congress of a department of the federal government devoted to the interests of public health. The progress made appeared so encouraging three or four years ago that President Cleveland recommended the creation of a national department of public health. The recommendation, how-

ever, passed unheeded. Since then the agitation has been actively continued, but confined chiefly to the medical and closely allied professions. The present congress will be asked to take up the subject and establish the proposed department.

The *Medical Standard* has earnestly advocated the new department, believing that in its creation the national government will serve the interests of the people in an important respect, and that through no other agency can this service be rendered so effectively or so comprehensively. The creation of a department of the government, however, is a subject that congress approaches with great deliberation, partly because of the general reluctance to extending the powers of the government, and partly in recognition of the constant cry for economy which is ever being raised, oftentimes in the face of the fact that the economy demanded is the greatest form of wasteful expenditure.

Much as the proposed department of health is to be desired, it is believed, after a careful survey of the situation, that it will be impossible to secure favorable action from this congress. A strong reason for this opinion is the fact that congress has already been asked to create a new department of commerce and industry, and the promoters of the movement for such a department have proceeded with such system that the support of commercial and industrial interests of every kind in all sections are united in active cooperation, and the early success of the proposed department is apparently assured. Congress cannot be induced to create two new departments in one session, even though the influence to be brought to bear were many times stronger than that at present united in asking for a department of health.

In view of these circumstances, it would appear that the wisest course lies in introducing a bill in congress which will take the Marine Hospital service as a nucleus and establish an unattached bureau clothed with the authority for national quarantine that is asked for from the south. Under the direction of this bureau, then, such investigations as that proposed into yellow fever conditions in Cuba, and leprosy in Hawaii, which, it is reported, are to be made subjects of congressional action, may be conducted. The unattached bureau would not cost more than will the performance of the same duties under separate divisions, and certainly would prove far more efficient. Thus equipped and permitted to show the public its field

of usefulness, this bureau of public health will have every opportunity to develop at an early date into one of the departments.

In efforts put forth to promote objects of this nature, sentiment should give way before the practical problems encountered. In this agitation for a department of health there should be no reluctance to accept a compromise proposition, which will bring success as far as it goes and which is in entire harmony with the general purposes in view.

Let all interests unite on the establishment of an unattached bureau of public health, with authority over national and interstate quarantine. With this program a long step forward may be taken. Less should not be asked. More it is useless to ask from this congress.—*Medical Standard, Jan. 1898*

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PARTIAL SUPPRESSION OF TEETH IN A VERY HAIRY MONKEY (COLOBUS CAUDATUS). By Charles S. Tomes, M.A., F.R.S. Read before Odontological Society of Great Britain. This specimen consists of the skull and the skin of a male animal, and the abnormality of the teeth is such that the idea was at first suggested that it might be a distinct species, in which the teeth were in a state of reduction comparable to those of *Proteles* amongst the Carnivora.

A closer study of the teeth, however, and the absolute identity of the skin with those of other specimens negatives this idea, and it appears certain that it is an instance of reduction accidental in the individual, and comparable with similar examples of reduction which are occasionally met with in man.

These monkeys are remarkable for the great length of the hair all over the body, and especially for the beautiful bushy tail. As has already been mentioned, this specimen shows no abnormality in the quality, length, or disposition of the hair nor of the nails; nevertheless it is especially interesting to the student of odontology to find that this the only recorded case, so far as I know, of great reduction in the teeth of a monkey, should have occurred in a form which, so far as its hair goes, deviates pretty widely from other monkeys; the more so as *Proteles* also is distinguished by the possession of unusually abundant hair.

In the human subject partial suppression of the teeth has been found not only associated with redundant hair, but also with paucity

of hair, whilst Dr. Guilford records the absence of hair and abnormality of fingernails in a mother, daughter and son, who, however, possessed teeth normal in size, form and number. And again, hypertrophy of the teeth has been met with at least in one case of redundant hair (in the case of the hairy woman, Julia Pastrana, whose face was covered with hair), so that all we can say is that abnormality in hair is apt to be accompanied by abnormality in tooth development.

If the skull be compared with those of other males of the same species it is found to be only a trifle smaller in most dimensions, but in the maxilla and the mandible the deficiency in size is far more marked, so that it comes to have a higher facial angle than belongs to the species. The posterior tuberosity of the upper jaw bears its normal relation to the other cranial bones, so that the shortening lies mostly in front of this point; the mandible is also shorter (73 mm. against 82 mm. in other specimens) and weaker, whilst its width is nearly normal at the back but is diminished in front, and the chin is more vertical. All the facial aspect of skull, and especially the zygoma, malar bones, canine fossæ, etc., have a porous appearance.

To pass to the teeth themselves, those present (either as teeth or empty sockets)—

	0	1	1	3
Right side: i.	—	c.	—	pm. — m. —
	0	1	1	3
	0	1	2	3
Left side: i.	—	c.	—	pm. — m. —
	0	1	2	3

Although all the incisors are absent, the appearance of the alveolus is such as to suggest that they may have been once present, although they must have been very small; the upper cuspids are large, but the lower ones are mere pegs, and the premolars and molars are all much reduced. Although the teeth are so small, they have not in the least the characters of retained milk teeth, but on the contrary present on a stunted scale characteristics of the permanent teeth.

The upper cuspids have attained to almost their normal length and width so far as antero-posterior dimensions go, but they are thinned by being much flattened on their inner sides; the left upper cuspid, perhaps owing to its being thus thinned, has suffered from wear to the extent of its pulp cavity being opened and the den-

tin is stained by blood pigment consequent upon the death of the pulp. It is rather remarkable that these teeth, serving as sexual weapons rather than for the procuring of food, should have attained to a greater development than the other teeth. In the lower jaw the cuspids are mere pegs (one is lost but its socket remains) and the upper ones were antagonized chiefly by the premolars. In the left upper jaw a small peg-shaped tooth lies close against the cuspid—this is apparently pm. 3 of the full mammalian dentition; then there follows an interval, pm. 4 lying close to and in series with the true molars.

Pm. 4 is lost on the right side, but its socket is there; on the left its crown is much reduced, is cylindrical and has little indication of cusps; all the upper premolars, apparently, had single roots.

In the mandible pm. 3 is reduced in antero-posterior length, but still is a fairly stout tooth with recognizable characters. Pm. 4 is lost on the right side, on the left it is much reduced as to its crown, which is cylindrical. It had clearly once two roots, but the posterior root has been absorbed and its socket has been filled up with bone, so that after a time this tooth also would have been lost. It is interesting to see this tooth, reduced in functional importance, undergoing absorption like a milk tooth.

Of the true molars m. 1 is the largest of the upper teeth; it has three cusps instead of four, there being but one inner cusp, and it has three roots. On the right side m. 2 and m. 3 are subcylindrical and almost peg-shaped; where on the left side they are lost, the sockets show that their roots must have been almost connate, there being but little indication of division into three roots.

The molar series does not reach as far back as the posterior palatine foramen, and the vacant alveolus is very thin edged; it, however, extends back to the normal extent; and the same condition obtains in the mandible, where there is as much as 19 mm. of vacant alveolus behind the teeth.

In the mandible m. 1 it is the largest (instead of being the smallest) of the molar series. It is ovate and subcylindrical and is so much worn that its cusp pattern is not traceable, though it can have hardly had very pronounced cusps; it has two distinct roots; m. 2 and m. 3 are smaller, cylindrical and only indistinctly two-rooted.

Only one of the teeth, viz., m. 1, in the upper jaw can be taken to show any indication of trituberculism in its reduction. It is

claimed by the advocates of the tritubercular theory that in reduction teeth show a tendency to revert to an ancient tritubercular type, and the frequent suppression of the postero-internal cusp in the white races has been held to be a reversion of this kind. But in this specimen of *Colobus*, although reduction has taken place in many teeth, it is only in this one that any distinct three-cusped pattern can be seen, so that the specimen does not afford much evidence in support of the theory.—*Brit. Jour. Dent. Sc., Jan. 1898.*

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"POISONS" IN OHIO. Under the statute of Ohio requiring the "poison and cross-bones" label on all medicines "the indiscriminate or careless use of which would be destructive of human life," the commissioner of that state recently instituted suits against two Toledo druggists for selling certain proprietary preparations in samples of which analyses made by two department chemists disclosed the presence of poisons as follows, the results of the two analyses given under each preparation:

Mrs. Winslow's Soothing Syrup: 1. Contains morphine, about 1-10th grain to the ounce. 2. Per cent alcohol, 6.5-10; morphine, calculated as morphine sulphate, $\frac{1}{4}$ grain to the bottle.

Ayers' Cherry Pectoral: 1. Contains morphine, about 1-10th grain to the ounce. 2. Morphine, as morphine sulphate, per cent 0.364; about 2 grains to $1\frac{1}{2}$ fluid ounces.

Scott's Emulsion of Cod-Liver Oil: 1. Contains about 1-10th grain morphine to the ounce. 2. Morphine, $\frac{1}{8}$ grain to 1 ounce. Calculated as morphine sulphate.

Dr. Birney's Catarrh Powder: 1. Contains cocain hydrochlorate, 2.50 per cent. 2. Conforms to label. Cocain hydrochlorate, 2.45 per cent.

Dr. Agnew's Catarrh Powder: 1. Contains menthol, bismuth and cocain hydrochlorate. 2. Cocain hydrochlorate, 5.32 per cent.

Bromidia: 1. Contains 15 grains chloral hydrate to every fluid dram. 2. Conforms to label. Chloral hydrate practically 15 grains to 1 fluid dram. No alkaloids or coal tar preparations present.

Dr. Wheeler's Nerve Vitalizer: 1. Contains bromid potash and chloral hydrate. 2. Alcohol, about 10 per cent; chloroform, about 1 dram to 1 pint; chloral hydrate, about 5 grains.

We understand that the essential correctness of the above analyses is disputed by none of the manufacturers excepting Messrs.

Scott & Browne for their "emulsion," who, in a convincing interview, have entered a vehement denial, asserting that morphine has never entered into the manufacture of their product, and if any was found it must have been put there for a purpose.

The act of the commissioner has been fiercely assailed, but, it would seem, without sufficient cause. On the reports of his chemists he had no alternative but to take summary action by immediate prosecutions. These reports in the cases of the notorious catarrh powders, of the soothing syrup, "cherry pectoral," and "nerve vitalizer" occasioned no surprise, and as to "Bromidia," the analysis merely verified the accuracy of its label; but the sensation was in the alleged discovery of morphine in an emulsion which was very extensively advertised as a food. Should the analyses of this emulsion prove to be correct, the men responsible for the terrible wrong inflicted upon the innocent victims of their deception could not be buried in infamy too deep or lashed with punishment too severe. We cannot believe, however, that a reputable mercantile firm could be guilty of such criminal folly. We cannot but believe that the analyses are wrong, and if right, that they are samples innocently obtained from a source hostile to the fame and prosperity of the manufacturers. This belief is strengthened by the sworn protests of the manufacturers, whose challenge for a complete investigation is so specific and positive as to compel the conclusion that they are the victims of a grave injustice.

But whatever may be the accuracy or otherwise of these reports, we agree with the *Western Druggist* in the declaration that the principle underlying the law and these prosecutions in Ohio is sacredly right. Too long have the makers of catarrh powders and other infamous compounds pursued their way with impunity. Morphine and cocaine in innocent disguise have been luring their tens of thousands to moral and physical destruction, and all because the people have been too indifferent or our legislators too busy or too readily influenced by the corrupt pleadings of a nostrum-fed press to come to the rescue. Every state has laws against the indiscriminate sale of poisons, which are not to be delivered to minors, nor to be sold without registration of the "quantity, kind and alleged purpose," but these same poisons, if sold under a disguised name or under false representations and promises, may be sold without limit or restriction if only put up and offered as a patent medicine. What peculiar sanc-

tity attaches to a proprietary package or label that it should enjoy these remarkable immunities and privileges? A poison is a poison if sold honestly as a poison; it is more than a poison if concealed under the disguise of a "syrup," a "vitalizer," or any other of the seductive titles that human greed can devise. If we need laws against the sale of open poisons, we need them infinitely more against these venomous secrets whose sting is in the dark and whose victims are the unsuspecting, the innocent and the helpless.—*Medical Standard*, Jan. 1898.

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VISUAL DEFECTS OF DENTISTS. By David W. Wells, M.D., Boston. Read before Northwestern Dental Association, Oct. 20, 1897. Since accepting the invitation to address you I have made an investigation of my case books for the last five years, in order to discover what particular optical defects are found with the eyes of dentists. It has been my good fortune to number among my patients quite a percentage of dentists, and I have taken considerable pains to classify the records of these cases and work out the percentages of the different refractive errors. The results are as follows: Simple near sight, .02; simple far sight, .02½; simple disturbance of the ocular balance, that is, of the muscles which move the eye-balls, .06; far-sighted astigmatism and astigmatism combined with far sight, .32; near-sighted astigmatism and astigmatism combined with near sight, .54; astigmatism with disturbance of muscles which move the eyes, .40. All these patients have sought help for some uncomfortable symptoms, and of course it would be very impolite of you to suspect that in any case the correction of these errors failed to give relief; and this *must* be conceded to substantiate the deductions hereinafter drawn.

Notice first the small number in whom far or near sight *alone*, without other error, was present (two and a half and two per cent), and even the *comparatively* small proportion of lack of harmonious motion of the two eyes, unaccompanied by other defect, six per cent.

But *what are* those troubles which run up respectively to thirty-two, fifty-four and forty per cent? One trouble obtrusively prominent in these cases is astigmatism. Like an octopus, it clings to far sight at the rate of thirty-two per cent, and entwines itself about binocular disturbances in forty per cent of the cases; and drags down the near sights in more than half the cases,—viz., fifty-four per

cent. Let me explain that these figures amount in all to more than one hundred per cent, because this arrangement puts *some* cases into more than one class. Before making this classification and study, I had thought and *argued* that simple disturbance of the ocular muscles for turning the eyes was the prevailing complaint of your profession, and *with astigmatism it is* very prominent—forty per cent.

The position you assume in working over a patient is certainly a very unnatural one, and from the oblique poise of the head would seem, *a priori*, to be peculiarly liable to disturb the binocular balance; the reason for which will be given later. So from this investigation the visual defects of dentists are found to be astigmatism and unbalanced ocular muscles; and although of the latter idiopathic cases exist, probably one-half are second to astigmatism. This prominence of astigmatism as a cause of eye-strain is in accord with the findings of other observers, under all conditions where the eyes are taxed.

Dr. Risley of Philadelphia has made diligent and extensive examination of the school-children of his city, this critical oversight extending over a series of years. His object was to discover the cause of the well-known development and increase of near sight during the school years; and after experimenting with the most perfect hygienic arrangement attainable, like ventilation, correct entrance of light from left and rear, and adaptation of the height of the desk to the individual scholar, still the near sight increased in about the same proportion as before. But on further analysis of the records it was found that almost none of the eyes which were free from astigmatism developed near-sightedness; and working upon this clue he corrected the astigmatism of other beginners with proper glasses, and the increase of near sight was very decidedly checked. So he makes the bold assertion that "astigmatism is the turnstile through which near sight enters the school-room."

So our inquiry seems to resolve itself, first, into a consideration of the subject of astigmatism; and it is only within recent years that we oculists have appreciated how slight an amount may be productive of severe local and reflex disturbances. In fact, the lower degrees cause more trouble than the higher. The reason of this seems to be that the eye instinctively demands a clear image, and if the error be one which the accommodation muscle can overcome by excessive and contorted contractions, it will have the clear image.

But nervous force thus extravagantly wasted is a serious draft upon the general store of energy. This explains why one's vision may be up to the average, and yet eye-strain in a serious form exist. But if the astigmatism is beyond the power of the lens muscle to correct, these attempts are not made and the patient may get along very comfortably, but with greatly reduced vision. But with the slight error, sight is obtained by main strength and—shall I say stupidity? Certainly, if the "means of grace" are known and neglected.

Astigmatism was first carefully described by Thomas Young in 1800, and it is now known, at least by name, to most professional men and to many of the laity; but to understand its potent influence for ill requires a clear knowledge of what it really is.

The word is derived from Gr. *stigma*, a mark or point, and *a*—not literally, not a point; that is, by a tilting of the lens or the spheroidal shape of the cornea, a departure from the true spherical curve in some meridian, a luminous point is not reproduced as a point, but elongated into a line at the angle of the defective meridian. Horizontal and vertical lines cannot be clearly in focus at the same time, and as letters and objects are distinguished by the lines that bound them, the accommodation plays a sort of "see-saw," alternately focusing lines in different directions until the object is seen. In the lower degrees the crystalline lens is often contorted to overcome the difficulty. The normal eye when focused for vertical is also focused for horizontal and oblique lines; and so when reading a flat page the focusing need be done but once and maintained throughout the page.

In contrast with this, is it strange that the unnatural continuous focusing required of the astigmatic eye should derange the nervous system? The symptoms may be local or remote. When we "cut in" (as the electrician calls it) to the circuit of our nervous system, the resulting disturbance may be anywhere along the line, presumably at some weak point; so the symptoms of an eye-strain may be pain or inflammation in the eye itself, or neuralgic headache, frontal or vertical, insomnia, gastric disturbance, chorea, migraine and vertigo.

Of course you are all aware that in this way carious teeth may cause neuralgia of the ophthalmic branch of the trifacial, but I am inclined to think that this condition as a factor in the etiology is rare. I have seen a number of cases where, in desperation, all of

the teeth have been extracted, sound ones, too, and, neuralgia still persisting, permanent relief has been afforded by glasses correcting a slight astigmatism. So just a word of caution in these cases: Be positive there is no uncorrected astigmatism. As before mentioned, vision may be up to or even beyond the normal. With a persistent neuralgia in or about the eye and no manifest refractive error, the palalyzing of the accommodation with a mydriatic should never be omitted, less some *latent* trouble be passed over. Sub-occipital headache at the so-called "base of the brain" is almost always pathognomonic of some defect in the binocular vision; but we will dispose of one eye first.

In contrast with this astigmatic eye, the perfect eye may be described as one in which a luminous point is reproduced as a point on the retina, and a clear conception of this fact would have relieved the physiologists from their unsuccessful attempts at explaining how we see things right side up when the image on the retina is inverted. The discovery of this image on the retina, the similarity between the eye and a photographic camera, has been a stumbling block to the majority, and I have yet to find a single text-book that is trustworthy on this subject. They have all fallen into the error of thinking that we look at the image on the retina, when in reality we look at the object itself.

The great physiologist, Michael Foster, who is just now affording us such a treat in his Lowell Institute course on the brain, gives the following: "As a matter of fact the field of vision, in one important particular, does not correspond to the field of external objects. The image is inverted. The rays of light proceeding from an object which by touch we know to be on what we call our right hand, fall on the left hand side of the retina. If, therefore, the field of vision corresponded to the retinal image, the object would be seen on the left hand. We, however, see it on the right hand, because we invariably associate right hand tactile localization with left hand visual sensation. That is to say, the field of vision, when interpreted by touch, is a reinversion of the retinal image."

Martin, in his work on "The Human Body," says, "a newborn child, even suppose it could use its muscles perfectly, could not seize a reachable object which it saw. It would not yet have learned that attaining a point exciting that part of the retina above the fovea (center) meant reaching a position in space below the visual

axis; but very soon it learns that things near its brow, that is, up, excite certain visual sensations, and objects below its eyes others; and learns to interpret retinal stimuli, so as to localize accurately the directions with reference to its eyes of outer objects and never henceforth gets puzzled by retinal inversion."

These two statements are fairly representative, and although clear and lucid, are, I think I can prove to you, not only inadequate, but erroneous. *First.* This reversal by one sense, the tactile, of the testimony of the outer world, as given by another sense, the visual, is not analogous with the other special senses; and during the learning lapses would occur, and pathology would furnish instances of mistakes. *Second.* Certain forms of congenital blindness, such as cataracts and complete closure of the pupil, can be remedied by operation. These children learn by touch the correct (erect) position of objects and their first impression when sight is restored would be an inversion of the object, according to the current theory. Nothing of this sort has ever, so far as I can find, been recorded. The case of a very bright child of six, with congenital cataracts came under my observation and I questioned her very persistently about what she saw when the bandage was removed; and she was so amused at the suggestion of "seeing things upside down" that it took a good deal of reassurance to convince her that I was not fooling, but in earnest. *Third.* This is a misconception, based on the old theory of special immediate creation of perfected organisms and finds no place in the scientific thought of to-day. It is inconsistent with the facts of evolution, which mean a regular progression from the simple by the relatively complex; and the explanation of the phenomena of sight must cover the primitive eye, as well as the perfected organ.

The study of embryology has shown that the eye develops as an offshoot from the first cerebral vesicle and when it reaches the surface is little more than a pigment spot, with a layer of epithelium. The function of such an eye could have been simply sensitiveness to light and the implication of the law of natural selection, that every minute change which was continued was of greater advantage to its possessor than a preceding stage, absolutely excludes the "tactile reinversion theory." For the specialization of a sense organ in such a way that its evidence of the outer world was misleading (inverted) until corrected (reinverted) by some

other sense organ (touch), could not have been of more advantage to its possessor than a less highly developed organ which could be trusted; and natural selection would have carefully avoided propagating any such variation. The inversion is an accomplished fact as soon as the primitive eye is able to locate an external point in space, for it can never see the point till it can tell its direction; so there can be no sight beyond mere sensitiveness to light without estimation of direction.

The subsequent changes are all along this line of so perfecting the mechanism that a luminous point in space shall produce an irritant point on the retina. Thus there is no break in the contemporaneous development of the organ of seeing and the psychical act of seeing. They advance with equal step. There is no catastrophe; no period when the optical apparatus gives wrong impressions to the sensory. All organs of special sensation are simply so many doorways opening into special apartments (departments) of the external world, and so very aptly that intensity of stimulus just sufficient to call forth a sensation is called the threshold. All nerves of special sense differ from nerves of common sensation only in the differentiation and adaptation of their end organs to the particular stimuli of their respective external realities.

Although Emerson says that "thought is the property of him who can entertain it and of him who can adequately place it," yet I am pleased to acknowledge my indebtedness to Professor Le Conte, of California, Dr. Dennett, of New York, and J. Clark Maxwell, of England, for the three thoughts of the conjugate foci, outward projection, and the composite image. A cone of light emitted by a radiant point falling on a convex refracting surface is again converged to a point behind the refracting surface. These two points are called conjugate foci (literally yoked together), because the radiant placed at either focus will be brought to a point at the other focus.

In the normal eye, at rest, a luminous point twenty feet or more distant is focused as a point on the retina. If the luminous point be nearer than twenty feet, the refracting or bending effect of the eye must be increased (accommodated) so that the conjugate focus shall still be at the retina. As before stated, when the eye is able to reproduce a luminous point in space as an irritant point on the retina, the optical requirements for perfect vision are secured.

Now "outward projection" means that the retina is touched at this mathematical point, and, like all other senses, it refers the sensation back to the source—in this case along the central line of the pencil of rays. The size of the image on the retina of the largest object that can be seen at one time without moving the eye or the object is three millimeters.

Conversely, the field of vision—of clear vision—with an immovable eye is extremely limited. At the length of the arm a circle, the size of the thumb-nail, represents all that can be seen clearly, and it is only by rapid excursions that the eye sees in detail those portions that were only outlined before. The field of vision has been compared to a painting, which is hazy and indistinct except a circle one-half inch in diameter, in which the most minute details are worked out. This small area may be any portion of the picture which is desired by turning the eye toward that spot, but no two places at once. It is hard to believe this, for the eye, by rapid excursions, so quickly covers a large field that the separate sensations are fused into one.

Now, the analogy and bearing of this is important when it is understood that we do not see even this one-half inch object as a whole. Each mathematical point of which the object is composed sends out its bundle of rays, which are again converged to a point upon the retina, and from this irritation conveyed to the brain; sensation (sight) results, which refers the irritant right back along the ray-line of each point to its source. So point after point irritates the retina and is referred to its appropriate place in space, until the luminous object is reproduced in the external world by the outward projection of an infinite number of luminous points.

To make this clear a very simple object should be used; let it be a vertical line. Now a luminous point at the top of this line produces an irritant point at the lower side of the retina, which is referred back to its source above and seen then in space. A luminous point at the bottom of this line produces an irritant point on the upper side of the retina and is referred back to its position in space, which is below. A point from the center is referred back to its place in the center for the same reason. And so with a point midway from the center to the top, and a point midway from the center to the bottom; and the process goes on simultaneously for each point of which the line is composed, and a sort of mental com-

posite results, which is the exact counterpart of the object, occupying the identical position in space, somewhat as the spiritual body is conceived to be immanent in the natural body.

To recapitulate: By the law of conjugate foci a luminous point in space corresponds to an irritant point on the retina. By the law of outward projection it is referred to its proper place in the object, and, as the object is not seen as a whole, an infinite number of such luminous points of which the object is composed are referred to their respective positions, and furnish a synthetic conception, which must be erect because each of its constituent points is in its place.

If I have dwelt at some length on the necessity of the eye being able to reproduce points, it may serve to explain the blurring that exists in far and near-sightedness, where the eye is either too long or too short, and is therefore out of focus; and what should be focal points of light are, instead, diffusion circles. But especially should it emphasize the trouble that may arise in that "not a point" condition, astigmatism, when innumerable mathematical points may produce a clear line in one direction, while in the opposite meridian diffusion circles are overlapping, forming a blurred line.

So far we have spoken only of the single eye, but we have two eyes instead of one, for a very important reason; that is, for the estimation of distance. To be sure, this can be done to a certain extent with a single eye, but all of us who have had occasion to pick up instruments with one eye engaged have no doubt about the advantage of binocular vision. The process is interesting from its analogy to the technique of surveying. The base line is the distance between the two eyes, and this factor remains a constant. Now, at either end of this base line is set up a surveying instrument, which measures the angle of the object with the base line; so the problem resolves itself into, "Given two angles of a triangle and the included side," which we solve by a lightning process. So long as the eyes are so directed that the retinal images fall upon corresponding areas, the external projections are superimposed and there results a single impression, with the third dimension depth added to the previously flat picture.

This is the principle of stereoscopic pictures; the photographs are taken from either end of the base line, and the stereoscope is simply a contrivance of lenses to superimpose the two. This balance is maintained by a nice adjustment of the six external muscles of each

eye; but if either eye deviate slightly one image no longer exactly covers the other, and a blurring or even double vision results. This does not mean that one is "cross-eyed," for when that stage is reached binocular vision no longer exists; one eye is completely ignored and its image not noticed. But it is the slight error, the wrong tendency, of which the instinct for clear vision demands the correction, which gives rise to the unpleasant symptoms; and these may be of almost any degree of severity, and may be either local or remote; but as before stated, dull, constant suboccipital headache is seldom lacking.

The prevalence of astigmatism with disturbance of ocular balance, in forty per cent of the cases analyzed, would certainly suggest a causative relation between the two; and this is easily explained when it is remembered that the act of focusing each eye for a near object, and the act of converging the two eyes till they both point toward the same near point are necessarily associated. Both sets of muscles, the ciliary, which do the accommodating, and the internal recti, which do the converging, receive their motor fibers from the same third nerve. Normally, both muscles contract at the same time, and so, like a pair of horses, when one is called on, both respond; but with the gymnastic efforts of the ciliary to correct astigmatism the convergence muscle can do nothing but "prance," as pulling would give double images.

That astigmatism induces disturbance of these convergence muscles is no mere theory, for where they coexist, and the astigmatism alone is corrected, the binocular error either disappears entirely or is so much lessened that a prism of less strength than that first indicated suffices to give relief.

That this "outward projection" is analogous to the law of direction and outward projection of other nerves may need some illustrations. The well-known fact that animals which have muscles for moving the auricle turn the ear toward the source of the sound, is evidence that they appreciate the direction of that sound and adjust the receptive apparatus to a more advantageous position with reference to the sonorous body. A very simple experiment will convince one of this outward reference to its source of a tactile irritant. Touch the cheek of a blindfolded person with a pencil; then vary the direction of the pencil, but make contact at the same point. A difference of thirty degrees is easily recognized, and the irritant referred along

the line of the pencil toward some familiar object across the room; the irritated nerve reaches out for the source. The familiar tingling of the last phalanx of the little finger from an irritation of the ulnar nerve at the elbow is another attempt.

Commencing with nerves of common sensation, it should be noted that immediate contact is necessary—the thing must be touched; and in the lowest of special senses, taste, the thing must be touched, and touched intimately—it must be soluble.

Smell is one step higher; here finely-divided particles of matter are brought from a distance by the medium of the atmosphere, and touch the nasal mucous membrane; and reference is made through the connecting medium, the air, to the source.

Hearing is another great step; the tympanic membrane is touched by the vibrations of air caused by the sonorous body. These vibrations are borne along by the conducting apparatus till the special nerve, the organ of Corti, is touched, and the sound is referred back through the lymph and ossicles to the drum, and thence back through the air toward the source, or sonorous body. Since Newton, scientists have recognized that for one body to act upon another at a distance, some medium must intervene. So with sight, the provisional ether is that intermediate something which reaches from the luminous point and "touches" the retina. The unlimited extent of the ether gives to sight unlimited range, and, although light travels one hundred and eighty-six thousand miles per second, it takes three and a half years for light to reach us from the nearest star.

The light which reaches us to-day from some of the more distant stars left them before America was discovered; before Jesus was born; before the pyramids were built, and, for all we should be able to see, they may have ceased to exist long ago, though their light still shines.—*Dental Cosmos*, Jan. 1898.

ARTIFICIAL TEETH FOR GERMAN SOLDIERS.—The German war office has determined to furnish artificial teeth gratis to such soldiers as may need them.

DIAGNOSIS OF PREGNANCY.—Dr. Park, of Philadelphia, reports that pregnancy may be diagnosed as early as twenty days after its occurrence by a study of the triple phosphates in the urine. The feathery appearance disappears from the tips of the crystals sometimes from one side only at first, followed by a like disappearance from the other side. If the fetus dies the normal appearance is renewed. This diagnosis of course affords the advantage that it can be made without suspicion on the part of the patient.—*Am. Gyn. and Obst. Jour.*

Letters.

CRITICISM OF PATENTS BY DR. HOWE

Dear Dr. Crouse:

NEW YORK, January, 1898.

Your recent circular with a sample of alloy, and one just received with a sample piano-wire broach, are at hand. I shall try the alloy carefully, and will be glad to avail myself of the opportunity to get broaches at a lower price, but I write especially to call your attention to your attitude regarding secret preparations and patents, which seems to be adding injury to that already inflicted by these evils.

I have taken pleasure in the past in commending your course in the formation and conduct of the Dental Protective Association, in which you have rendered us all great service; but now that you have gone in the trade of making and supplying us with material, it seems to me that by adopting the methods which have always been detrimental to the ethical and material interests of the profession, you are likely to inflict upon dentistry so great an injury on its professional side as to more than counterbalance the material benefits you have conferred.

I refer in the first place to continuance of the practice, common in the trade, of advertising alloy and cement made from secret formulæ, and claiming superiority while withholding all information.

We cannot expect to be treated on an ethical plane by tradespeople or their employes, who have no other object than to make money, nor can we always expect the average dentist who thinks he has discovered a good thing to disclose the secret, if by so doing he thinks he will lose money. But I confess to have been greatly disappointed when the earliest advertisement of supplies by your company included an alloy made by you, without disclosing the formula.

This, together with your excessive price, \$10, for your patent handpiece, made me conclude that I would not take shares in the Supply Company's stock, and made me feel like writing you in this way at that time. It was deferred, however, for more urgent things, and would probably have been indefinitely postponed but for your recent circular, which came just at a time when I was urged to say something at a coming dinner about the evils of secrets and patents.

This led me to think that perhaps I ought to write you, to say that it seems to me your action in the interest of your Supply Company, taken in connection with your professional standing and rep-

representative position, is likely to have a more demoralizing effect upon professional standards than any recent event.

It is generally believed that professional development for dentistry started when secrets began to be disclosed, when journals and societies and schools were established to spread knowledge and to inform all who would learn. The fact that tradesmen soon went into journalism, and that they have traded on secrets and patents to our damage, has made it clear to the observing, that their interests were not the interests of the profession.

If the disclosing of secrets and freedom of knowledge are signs of a professional spirit, why should anyone who claims to be in good professional standing think himself privileged to dispense secret compounds for professional use? So far as I am aware, dentists who have gone into this form of trade have generally lost caste, but they have been tolerated, and the objection to it has never been so pronounced as it should have been or this relic of non-professional days would have been stamped out.

Your company, however, is likely to do additional harm by confusing the moral sense of your dental shareholders—as they presumably receive larger profits from secret preparations, they are tempted thereby to overlook the ethical offense, and the rising generations of dentists, as well as those already here, see that the claim of dentistry to be a liberal profession is good only to the point of its supposed effect on the pocket.

The secret is as serious an enemy of professional progress as the patent, because if one may retain information that he considers valuable for the purpose of making money, the professional spirit that gave origin to the early liberal movements will soon die out, and the tendency will be for each one to figure how he can make the most out of any new idea, irrespective of ethical claims. Whereas, the most evident evil that is inflicted by the patentee is the exaction of an exorbitant price.

In this latter respect dentists have suffered in a great measure, because their ethical standard has not been such as to make it disreputable for a dentist to take out a patent. This is the fountain head of almost all our patent woes, and will so remain until there is a change in this respect, or in the patent laws, or in both.

If Donaldson had cared for professional standing, and for an ethical standard that forbade obtaining a patent, more than he cared

for the money he could get out of the latter, there would be no trouble over the broach he made. But the ethical standards of dentistry have been either so low or so lax that men of high standing have not hesitated to patent the most trifling things. They are the offenders against their professional brethren, and not the tradesmen to whom they sell the power to extort and to hinder improvements.

There seems to be no consistency in denouncing those who are in trade, when they use such power, put into other hands by those of our own number, who profit by the deal and escape the condemnation they deserve; and I have regretted very much that you seemed to place yourself and the Supply Company in a glass house from which to throw stones at the tradesman. It seems to me as if withholding the formula of your alloy and obtaining a patent on your handpiece places you as a dentist on the same plane with Donaldson and the other dental patentees who have sold us out to the trade. Furthermore, in the price you charge for the handpiece you seem to me to be taking the same amount of advantage of the situation as the S. S. White Company do, only it happens that on piano-wire broaches they think they have a monopoly and can therefore put their hands deeper "into the pocket of every dentist."

It has seemed to me as if you were missing a great opportunity to place the dental supply business on a higher plane than it has been, and that as a dentist you might have set a notable example of professional spirit, and have been in a position to strike at the source of most of our patent evils, which lies in the low state of ethics among us, that permits a man to retain his standing among dentists after patenting his invention.

I have written to you thus because I have had a high appreciation of much that you have done, and if my view of the matter is incorrect I should be glad to be better informed, for I wish to be as near right as possible in my judgment. I remain, sincerely yours,

J. MORGAN HOWE.

REPLY TO CRITICISM BY DR. HOWE.

Dr. J. Morgan Howe,

CHICAGO, Feb. 15, 1898.

DEAR DOCTOR:—Your letter to me is published in full in this issue of the *DIGEST*. I asked you to allow me to publish it, because the questions you bring up are not well understood by the profession. All the discussions on this subject that I have ever seen have been

misleading, because the evils were attributed to wrong causes, and as you make the same mistake, your conclusions are faulty. As regards professional patents, you commit the error of not making a clear distinction between those which are legitimate and illegitimate. There is a wide difference between protecting meritorious invention and sham patents, and they must be kept separate in this discussion.

I believe that the patenting of new and useful appliances has been of the greatest benefit to us as a profession. The fact that an inventor can protect his devices and thereby receive compensation for his labor, is surely a greater stimulus to effort than as if whatever he accomplished, although it might be the labor of months or years, had to be shared equally with others or given away. Although I have no ability in this direction myself, I cannot see why an inventor should not have material compensation for his labor.

A stronger reason why this patent protection on legitimate inventions has been a benefit to us is the fact that when the inventor has gone as far as he can, the drawings and crude plans are given to the manufacturer, who must go to the expense of perfecting them so that they can be made useful, and the fact that when they are ready to market he is protected, makes it safe for him to go to this extra outlay of money. Consequently, implements are furnished to us in a much more perfect shape, although perhaps at an increase in price over what they would be in a crude state.

In the arguments from an ethical standpoint against patents I have never seen nor heard a presentation which would stand a careful analysis. By confounding the facts in regard to legitimate invention with the dishonest and unscrupulous methods practiced under cover of sham patents, a line of reasoning is made to look plausible, although when dissociated from legal invention it presents an altogether different picture. In my work of the Protective Association, which you so kindly commend, I soon found that the greatest wrong inflicted upon our profession was not license patents, which were bad enough in themselves, but the abuse which was many times greater than all these combined was the invalid patents on appliances which we use in our practice.

Space will not permit me to go into a detailed account of these abuses—this will be discussed in another communication to the profession soon—suffice it to say that nine out of ten of the patents on

our implements supplied in the past would not have stood a legal test; but as the situation has been, with most of the dental supply people combined in a trust, and no one to look into the matter, a sham patent answered their purpose just as well as though it had been legitimate, and the extent of this kind of abuse has been much greater and has cost the profession many times more than the royalty claims, such as those imposed by the Goodyear Vulcanite Rubber Company, the International Tooth Crown Company, and other less prominent organizations.

It was to remedy this abuse, which had been submitted to with scarcely a man in the profession knowing the wrong done him, that caused me to organize another corporation, to operate in connection with the Protective Association and thus band us together in a way to secure more permanence to the organization, and also to make us masters of the situation. No other consideration that I can imagine would have induced me to undertake so enormous a task, but with valuable aid from some members of the profession and others outside I have been moving along carefully and developing the business as best I could.

I have furnished four-fifths of the money necessary, and have at last gotten the Supply Company in a condition where it is no longer a financial burden to me personally. Now if the wrongs which existed are not remedied, it is not I, but just such men as you and others, who know the situation and yet give the movement no support, who will be to blame. In the meantime I am practicing dentistry for a living, for I have given what services I have rendered to the Supply Company and Protective Association gratuitously, there being no salary connected with either. All the above statements can be easily verified, and should convince you that if others desire a reform as much as I do, we will have it.

Now let us see if your criticisms and fears are justifiable—the “patent handpiece with the excessive price,” for instance. It is very evident to me that your knowledge of the supply business is deficient. That handpiece is one of the most economical things ever offered, and there is not a dollar added as patent royalty. I did not invent it, in fact never invented anything, but I bought the patent for the Supply Company so as to be able to make every part as perfect as possible, which has necessitated a large outlay before getting any profit. This point has already been explained.

You must remember that one important item in any pursuit, whether mercantile or professional, is sufficient profit to warrant its continuance, and the expensive way in which dentists require the supply business to be conducted makes their supplies more costly than they should be, but this problem cannot be discussed here.

The other absurd proposition is that the formulæ of alloys should be published. The publishing of formulæ for alloys, and the attempts by so many to furnish alloys from these formulae, has been detrimental to the dental profession, as it is one of the reasons for the great array of worthless preparations now on the market. They have been made in all sorts of combinations, with no regard to the laws which govern the chemical union of metals, and no one make has shown the same qualities twice in succession. Out of seventy or eighty tested scientifically, there was not one that an honest practitioner would use if he knew how defective it was, but these defects could not be detected when the amalgam was first put into the cavity, so that many of the worst have by some miscalculation become very popular, and much injury has thus been done to patient and operator before the faults became apparent. The careful observer must have seen the constant failures, no matter how carefully the work had been done, when the test of time was applied to these fillings in the mouth. The above facts will explain to any intelligent mind the cause of the almost universal imperfections in amalgam fillings.

With the above picture before me, how could I best help my profession? Not by giving them a formula, but, realizing the seriousness of the situation, I wished to see them furnished with an alloy on which they could depend. With this object in view I had the Supply Company engage an expert metallurgist for this work, and as no one but a practical dentist can test alloys knowingly, I gave him all the assistance I could. After many months of expensive labor and experiments, to say nothing of the cost of complicated instruments whereby perfection and uniformity could be assured, why should the conclusions arrived at be made public? This course would not only be manifestly unjust to the stockholders, but would probably result in a repetition of the defective and deceptive mercantile methods now in vogue.

Now, Doctor, I trust that I have answered your questions. Before I close let me ask what you are doing to benefit your pro-

fession, or by what right you criticise or "throw stones" at those who have at least tried to do what they could to help their fellow practitioners. You criticise the present methods of conducting a dental supply business, but you offer no solution of the difficulty. Remember that reforms are not brought about by criticising others, nor by standing aloof because the methods adopted are not in accordance with your views.

Hoping that I have explained my position, I remain,

Yours truly,

J. N. CROUSE.

LETTER FROM CANADA.

To the Editor of the Digest,

MONTREAL, Feb. 19, 1898.

DEAR EDITOR:—We are glad to hear that the dental board of the Province of Quebec have the revision of the Dental Act in hand. We hope they will succeed in reducing it to a third the size it is at present, and make it so that it can be understood, as the present one is beyond the comprehension of the legal lights.

On the 7th instant the Montreal Dental Club held its first annual dinner at the Hotel Carslake; it was a success in every respect and will be repeated. It is probable that this body will hold a dinner before the summer vacation, and we hope the ladies will be invited.

The members of the Dental Association of the Province of Quebec had the pleasure two years ago of entertaining the members of the Vermont State Dental Society. They now reciprocate by inviting us to their annual convention which will be held at Rutland, Vt., March 16-18.

Fraternally yours,

MONTREAL.

BALTIMORE LETTER.

Dear Digest:

BALTIMORE, Feb. 14, 1898.

As a reader of the dental journals I cannot but be struck with the amount of time and energy expended, just at present, upon the discussion of matters having reference to the management of the affairs of the dental profession. Every monthly that comes has a new "Richmond" who knows just what to do to make an ideal profession. What is the wonder, after trailing through the heat and mire of these discussions, that one's fevered imagination disturbs his slumbers with visions of immense sausage factories with capacious vats, built especially for the reduction to their ultimate elements of all dental examiners; or that in his dreams he is visited by mysteri-

ous forms who tell of escaped examiners hidden under a log in a dense wood, to be produced and vatted for a certain consideration; others fled to the marshes of New Jersey, living in a muskrat burrow, feeding on roots and herbs; yet another hiding in the graveyards of the Quaker city. Merciful heavens, protect the hunted.

The vision passes, and in its place stand long lines of college professors, tall and short, young and gray, marching off to Cuba to fight the yellow fever and the Spaniards; none has escaped, all are alike doomed.

Then appears a figure like the woman of ancient Alexandria, bearing in one hand a bucket of water and in the other a torch, declaring—"With this torch will I set fire to Heaven, and with this water will I quench the fires of Hell, that men may serve God for the love of Him alone."

Oriole wants to unfurl a flag of truce and let the breeze of good fellowship and love of humanity float it out over a united profession. Enough of boasting, fault-finding and name-calling. Contrast the work the colleges are doing to-day with that done ten years ago, but not with that which should be expected fifty years hence, and congratulate the men who, when the day's work in the office is done, labor yet far into the small hours of the night that they may fulfill their obligations to the students and to the profession at large.

Does someone say there are exceptions to this that we would criticize or legislate against? Not so, my brother, the exception will not survive the loss of self-respect; he will soon drop out when he gets lonesome. Then why should a man be less a brother because he is a member of a board of dental examiners? Unless, perchance, he is driven with the hot iron of ridicule and unfriendly criticism to think and say things in retaliation which are unseemly. Give him a chance, if he is to be a permanent fixture, to right himself and look amiably about upon his surroundings. Do not deny that these men, too, are willing to pay the price of their promotion, and if there be those who can't pay, they too will drop out; the debtor soon grows shy.

Above all I plead for a broader conception of professional relations, self-abnegation, ambition for the advancement of the whole, absence of personal interference with matters which should be settled by organizations. If an editor, a writer, a professor or an examiner be righteously indignant, let him spend his surplus

energy in scientific research, in telling of a better way to fill teeth or treat a disease, and we will all vote him a more decent, companionable fellow. Journalism, colleges and examiners will all grow better.

Our western man has lost his suit and his attorney has introduced into our legislature an amendment to the dental act, involving a change in the charters of dental educational institutions and providing for the licensing of such as he. It is possible that the law approved by the state association will meet with some opposition from this source in spite of the fact that the approved measure would afford relief to the young man. This goes to prove Oriole's contention, that after the imprudent and unwise execution of law, the officers must face an indignant public. The people make and unmake laws; they must be finally heard.

Cordially yours;

ORIOLE.

PHILADELPHIA LETTER.

PHILADELPHIA, Feb. 21, 1898.

Dear Digest:—Some days ago we learned that a young man who has been visiting the dentists of this city in the capacity of salesman for a western house, and who has never lost an opportunity to disparage "Fellowship" alloy, is now making personal attacks upon Dr. Crouse. He is not satisfied that dental materials should stand solely upon their merits, but says we are all deceived by "our friend Crouse." Not only does he criticise Dr. Crouse's private affairs, but he questions his integrity in conducting the affairs of the Protective Association.

This young man further states as a means of prejudicing the minds of the Quakers, that Dr. Crouse claims for "Fellowship" alloy "that it contains no copper and does contain a percentage of gold." Now as we all know that no such claim has been made for this material, and as we have the greatest respect for and confidence in Dr. Crouse, you can imagine that this young man did not leave Quakerdom in as sanguine a condition as he entered. He received some wholesome advice from several personal friends of Dr. Crouse, and was informed that false statements did not help him to sell goods.

When this information was given to us, and it came from reliable sources, we thought of the aged lady who was always able to find ground for thankfulness in everything. When the fact that she

only had two teeth was referred to she replied, "Yes, and I thank the Lord that they meet." So we feel thankful that the young man in question is still young and will have time to profit by experience and learn that it is not best to allow business enthusiasm to carry him into indiscretion.

We hear considerable complaint just now about the recent action of our newly appointed state board of dental examiners. It was announced that the board would hold its examinations at a time suitable for all the colleges of the state except one, and that it would hold another meeting two months later for the convenience of this one college. All arrangements were being made to that end, but now the mandate goes forth that this must not be, lest the students of the one school shall not receive the same treatment as those of the other four. Now the graduates of the four schools must wait in idleness and under much expense for two months, simply to satisfy the notion of the fifth. The official proclamation has been sent out to give notice of the change of time of examination and college men tell us there is no redress; at least, not at present.

The Dental Protective Supply Company is to be congratulated upon its latest achievement in tooth making. We have just seen some of the last baking at the Philadelphia branch. They are made from beautiful molds and are of excellent texture—two points seldom met with in artificial teeth.

We suppose you have noticed the recent attacks made by the *Items of Interest* upon one of the colleges in this state for its mode of advertising. There is no doubt much room for complaint; if the schools are not ethical they cannot expect very high standards from their graduates. At the same time, however, it would be well for some of the journals which are constantly theorizing upon the different phases of this subject to remember that ethics, like religion and charity, begin at home. The essence of any of these is in the every-day practice or living of them. The most complete code of ethics ever written is the little Golden Rule.

A very interesting paper was presented at the last meeting of the Odontological Society upon "Empyema of the Antrum." The essayist was Emma E. Musson, M.D., one of the brightest professional women of our city. The subject was discussed by Drs. M. H. Cryer, D. Braden Kyle, C. N. Peirce, George W. Warren, and W. G. A. Bonwill, and much interest was manifest upon all sides.

We regret to record the death of one of our members, a hard and faithful worker and one who for years had been active in society matters. Dr. Alonzo Boice has passed from this life since your last issue.

Cordially yours, THE SPECTATOR.

NEW YORK LETTER.

To the Editor of the Digest,

NEW YORK, Feb. 18, 1898.

MR. EDITOR:—It will be noticed that we have reported an unusual number of deaths lately, and all acquaintances. In noting an account of the first use of the mallet on our own teeth by Dr. Atkinson in 1863, we remember that all at that clinic except ourselves are dead.

The filling was on the proximal surface of the left superior third molar. The tooth had been aching, and a filling of Hill's stopping had been placed in the cavity some months previous. The first pieces of gold that Dr. Atkinson placed at the cervical border he dipped in pure creosote. It was a fad of his at that time, but we had the taste of creosote for months afterward. The filling is now becoming defective, after all these years of use, but the wear seems to be on the grinding surface, and not at the cervical border. The instruments had coarser serrations than those now used, and the mallet was a hard rubber one. We give the details, thinking they may interest the younger fraternity. Little do they know how their fathers plodded for their good.

We wish to give a word of warning—look sharply after rough edges on the teeth. You may become alarmed for your patients at what you will see. We recently had a serious case. A lady, having an upper denture occluding upon a goodly number of lower natural teeth, came to us in agony. She could not tell what the matter was, but had to write it out on paper. Our examination showed the cutting edge of the cuspid abraded to a beveled form, the longest portion being on the lingual edge, and on it a little fracture like a saw tooth. For some two months the tongue had been continually moving from point to apex across the irritant; the agony had become unendurable, and all the tissues on that side of the tongue were frightfully congested. We at once removed the roughened edge as best we could, and then gave a teaspoonful of a saturated solution of salicylic acid, to be held in the mouth for a minute, and by thoroughly cauterizing the entire oral cavity we presently

gave the patient some relief. After prescribing a mouthwash and gargle we sent her home and she steadily improved from that time, so that now the use of the tongue has become normal.

We did not tell the patient the danger she was in, but it was very plain to us. An acquaintance of ours has a well matured cancer in the mouth from the same cause, a fractured tooth. Concerning the death of General Grant, Dr. Frank Abbott, of New York, whose patient he was, states that he had a slight irritation at the base of the tongue, caused by a broken molar tooth, to which he paid no attention. He continued to smoke; the tooth continued to irritate the parts, lacerating the surface, and by and by the tissue began to develop new cancer cells, and almost simultaneously with the development of new cells was a breaking down and development of a characteristic epithelial growth. The diseased process began to extend down the pharynx, involved the lymphatic glands, and when it reached a point that made it almost impossible for him to tolerate the pain he applied for relief, but it was too late.

We echo Professor Peirce's views concerning the application of the term "stomatologists" to the new National Association. Let the younger members in the future use it if they are qualified to take full surgical care of the mouth. How much glory did our profession get by catering to the medical profession for recognition? This stomatological move is a dog of the same breed, except that he has a shorter tail and a larger mouth.

What a prolific writer is Brother Black. We think the coming profession will appreciate his writings more than the present, judging from what we hear. We wish that the walking might be good, for we should like to be in attendance at the odontographic clinic in Chicago. It is immense.

We just learned this sad piece of news. Dr. N. W. Kingsley has been ailing for some time, and is to-day a very sick man. To add to his misfortune, Miss Smith, who has been his very competent assistant for many years, dropped dead a day or two ago. Dr. Kingsley has many admirers of his skill and personal character, and all wish him a speedy return to health.

We recently saw the agent for "Elite Advertising" of the Astoria-Waldorf, but we did not think it would benefit us. He had a list of prominent dentists who thought otherwise, which was shown to prove that leading dentists do approve of elite advertising.

Here is an item given us by Dr. Hillier, of New York, which we think valuable, for stamping the grinding surface of gold caps. Take a cuttlefish bone, and with a ribbon saw split the bone and press the plaster tooth into the inner surface of the bone, made available by the split. This will give a depressed impression of the cusps. Then cut gates for the impresses and place together another portion of the slab split off. You have a simple little ingot, and with fusible metal that will melt at boiling water point you obtain a metal die; very simple, but quickly made and very efficient. If one has a number of plaster teeth in a model and desires to use one or more, split off the number needed for use and proceed as described.

Poor Barrett! Woodman, spare that tree. The editorials of the *Digest* are truly "items of interest." Who thinks a disease can be patented? A bright out-of-town dentist asked us what we thought of illustrating dental offices, and we answered that it told its own story. It reminds us of a statue or bust once shown in a picturesque journal, and a man out west likened it to something—what was it? The *Western Dental Journal* had it.

We are satisfied on good authority that all the gossip concerning Dr. Baker, the newly appointed dental commissioner of Connecticut, does not in any way involve his reputation as a dentist or as a gentleman. His standing as a practitioner, his high social position and his property holdings are all quite phenomenal. We learn from a reliable source that he was so popular the governor of Connecticut offered him a position on his staff, but he refused it in favor of a friend whom he thought better fitted. He was then asked if he would take a position as dental commissioner, and accepted. To be sure he has no diploma, but few who hold diplomas are his superiors. We ourselves have none, but we have taught in four dental colleges.

The monthly meeting of the Odontological Society was held Feb. 15, and the paper of the evening was "The Manifestations of Syphilis in the Mouth," by Dr. L. Duncan Bulkley, of New York. The discussion took an easy style that begot freedom of expression, such as is not often seen among dentists. We attributed this to the rare gift of the president, Dr. S. G. Perry, who generates this atmosphere. Dr. E. S. Gaylord and Dr. F. P. Hodson were the clinicians. The latter gentleman exhibited some matrices of great simplicity

and economy. Dr. Gaylord gave a clinic in gold filling, and his personality in operating must be seen to be appreciated. His facial expression cannot help but inspire confidence in the patient.

Clinics are to be made more and more a feature of this society—a commendable proceeding. We believe that this society has it in its power to retrieve anything it may have lost by dissension. Chicago to our mind shows wisdom in its liberal instruction. Clinics have done more than any one thing to make societies what they are, and New York owes much in this direction.

The First District Dental Society held its regular monthly meeting Feb. 8, and the essayists of the evening were Dr. John T. Usher and Miss Martha Smith, the latter from Kansas City, Mo.

Cordially,

NEW YORK.

NEW JERSEY LETTER.

To the Editor of The Digest,

NEWARK, Feb. 23, 1898.

MR. EDITOR:—The past month in society circles has been taken up largely in making the final touches to the new dental law, and in preparations for the annual dinner of the Central Dental Association.

Several new features were introduced into the dental law, making it equal if not superior to the ideas of Dr. Ottofy. They are substantially as follows: "That the state board may, without the customary examination, issue its license to any applicant who shall furnish proof satisfactory to it that he has been duly licensed, after examination, to practice in any state, after full compliance with the requirements of its dental laws, and has been lawfully and reputably engaged in said practice for five years preceding his application, provided however that his professional education shall not be less than that required in this state." It has also a provision to prevent any unlicensed person from practicing under cover of the name of a registered practitioner.

An article is aimed at the "associations" as follows: If any association or company of persons, whether incorporated or not, shall engage in the practice of dentistry under the name of a "company" or "association," or any other title, such company shall keep displayed in a conspicuous place at the entrance to its place of business the names of each and every person employed by said company in the practice of dentistry.

It also provides for an annual registration. These features make it to our mind one of the best laws in existence, and that it will soon be on the statute books seems very probable.

The annual meeting of the Central Dental Association was held on the evening of the 21st instant at Newark, when two hundred dentists from all over the country sat down to a feast of good things.

Hon. James M. Seymour, the mayor of Newark, responded to the toast of "Newark and Her Industries" in a very eloquent speech.

Prof. Dwight L. Hubbard, dean of the New York Dental School, spoke of "Professional Requisites, or Quantity versus Quality." He maintained that basic principles should be taught students more thoroughly, and not general or special lines of practice; that money making should not be the dominant feature in choosing and practicing the profession, but that honesty of purpose and desire to benefit humanity should be the ruling principles, and that incidentally these would the sooner and surer bring financial success and the true and lasting confidence and respect of the people; that too often the aim of the student was to finish his course in the shortest possible time, which was a bar to his future success and usefulness; that natural ability counted for much in the future verdict of the people, and that theory alone would never suffice to bring the looked-for success.

Dr. O. E. Houghton, of Brooklyn, spoke of the friendly relations which have always existed between the societies of Brooklyn and New Jersey.

Dr. Louis Ottofy, of Chicago, spoke on "Faculties versus Examiners." Dr. Ottofy eloquently maintained that a high preliminary standard of education was necessary to raise the standard of the profession, and that the Faculties would sooner or later see it, and so again restore perfect harmony between the two organizations, to the benefit of the whole profession.

Dr. R. Ottolengui, of New York, talked on "Not for one faction, but independent dental journalism for the whole profession." Dr. Ottolengui said that the *Items* under his editorship would make three special lines of action the coming year; to secure an amendment to the patent laws to prevent any patent being issued on any method for relieving pain in the mouth; for a uniformity in the dental laws of the various states, and for building up the Dental Museum at Washington.

Among those present were Drs. C. A. Woodward, J. Morgan Howe, E. A. Bogue, J. Bond Littig, S. E. Davenport, V. H. Jackson, all of New York; Prof. Taylor, of Hartford; Prof. Stellwagen, of Philadelphia.

At midnight the company dispersed, and another year's history was added to the C. D. A. Cordially yours, "HORNET."

The Dental Digest.

PUBLISHED THE
TWENTY-EIGHTH DAY OF EVERY MONTH.

Editorial.

FUTURE OF THE DENTAL PROTECTIVE ASSOCIATION.

Shall the work of this body be continued, and if so, on what basis? Since the International Tooth Crown Company has again started suits in New York within the last few weeks, and other license-patent companies are preparing to begin when the way is clear, it is a good time to consider whether the Association shall be kept up, and what shall be its policy. Will it be best to continue to protect non-members as well as members, although the former do not unite with us nor contribute to the support of the organization?

We have been urged both ways. Many wish us to continue as in the past, but others, who seem to be in the majority, make a strong appeal to have matters so arranged that only the members will be afforded protection and those not in the Association will have to take care of themselves.

We have received hundreds of letters within a month that this has been the cheapest protection and the most profitable investment ever made; and, in fact, as conducted it has been an expense of only \$1 per year to each member for the last ten years.

We would suggest a better plan than either of those proposed, and in view of the recent suits instituted in New York it can easily be accomplished at this time. If each member of the Association will impress upon his neighbor what has already been accomplished by the Protective Association and the necessity for cooperation at this particular time, the membership of the Association can be easily doubled or tripled. Why should this not be done?

ARTICLES AND LETTERS THIS MONTH.

The case reported by Dr. E. C. French is good evidence of what nature can sustain under the most trying conditions, and it also shows that if pulps are properly capped they will live, which should give more faith in this practice. We saw the tooth and to all appearances the pulp tissue was in normal condition, and there is

no telling how much longer it would have remained so had not an abscess formed on the end of the other root.

The address by Dr. W. L. Skidmore contains two or three valuable suggestions. He lays stress upon the benefit accruing from associated effort. When all the dentists in a small place meet together for consultation and discussion of affairs, it cannot help but result in good to all of them. These clubs also educate the dentists into attending state and national dental organizations. As Dr. Skidmore says, the most prosperous men in the profession are those who attend society meetings and read dental journals.

While cases of electroplating are not rare, the one reported by Dr. F. N. Brown presents some peculiar features. We would suggest that a little air might have remained when the crown was cemented on, and this allowed the saliva to act on the cement, and the acid aided the process of electroplating.

The article by Lee S. Smith is worthy of careful thought and consideration. As he says, a man who tries can always get to the top, and lack of ambition is the cause of most failures in dentistry, as well as in other pursuits.

The letters this month are full of interesting gossip as usual. We would call special attention to the one from Dr. J. Morgan Howe and our reply to it. One phase of this subject is admirably dealt with by Dr. J. A. Chapple on page 112 of this issue. We apprehend that this subject of patents, formulæ, ethics, etc., will bring forth much discussion, as it is one which is occupying the attention of the dentists at present.

TENTH ANNIVERSARY OF ODONTOGRAPHIC SOCIETY OF CHICAGO.

One of the most notable clinics ever held was the recent one under the auspices of the Odontographic Society of Chicago, Feb. 21 and 22, 1898. There were seventy-six distinct clinics, the largest number ever given at one meeting. The society received great stimulus, as there were one hundred and fifty new applications for membership.

There were two hundred and fifty guests at the banquet at the Palmer House Tuesday evening. The banquet and the whole meeting also were especially beneficial in a social way, as new acquaintances were formed and old friendships strengthened. Be-

"Some Thoughts on Alveolar Abscess," by Dr. A. W. Harlan, of Chicago, was the last on the program. The chief point was using the medicinal preparations in a more dilute form. The essayist condemned the use of sulphuric acid, and it is our opinion that this agent is being too generally used for enlarging the pulp-canals.

Notices.

FALLS CITIES DENTAL CLUB.

The midwinter meeting of this organization was held at Louisville, Ky., Jan. 22, 1898. The afternoon was devoted to clinics, and a banquet followed in the evening.

NORTHERN IOWA DENTAL SOCIETY.

At the annual meeting of this society, held at Mason City, Sept. 7-9, 1897, the following officers were elected for the ensuing year: President, Dr. G. N. Beemer; Vice President, Dr. A. N. Ferris; Treasurer, Dr. G. H. Belding; Secretary, Dr. Wm. H. Steele.

ILLINOIS STATE BOARD OF DENTAL EXAMINERS.

The next meeting of the Illinois State Board of Dental Examiners will be held in Chicago, March 12, 1898, in the rooms of the Board of Education at the Schiller Building. All applicants should notify the secretary of their intention of taking the examination.

J. H. SMYSER, Sec'y, 70 State street, Chicago.

DELTA SIGMA DELTA BANQUET.

Chicago members of the dental fraternity, Delta Sigma Delta, had a banquet at the Victoria Saturday night, Jan. 29, 1898. The banqueters were from the supreme and Beta and Eta chapters, the three Chicago chapters, and they filled the hotel dining-room. The program of toasts was as follows: "Welcome," R. B. Tuller; "Past, Present and Future," G. V. Black; "The Supreme Chapter," A. H. Peck; "Our Literature," Louis Ottofy; "New Material," G. W. Schwartz; "The Condition of the Goat," T. L. Gilmer; "The Glad Hand," Don M. Gallie; "Beta Chapter," C. M. Rankine; "Eta Chapter," H. F. Echternacht. College songs, mandolin and vocal music, and recitations were interspersed between the toasts, and an elaborate menu was discussed.

LATEST DENTAL PATENTS.

- 596,022. Dentometer, David L. Aber, Pittsburg, Pa.
- 596,450. Tooth-brush, Fred S. Allen, Valparaiso, Neb.
- 596,399. Speculum, George R. Fox, Plaquemine, La.
- 596,254. Dental disk-holder, George W. Watson, Passaic, N. J.
- 596,667. Dental chair, Nicholas M. Rose, assignor of one-half to P. N. Hudspeth, Bowie, Texas.

sides a host of city dentists there were many present from other states as well as points adjacent to Chicago.

The papers read Monday afternoon and evening were very interesting and valuable. Dr. J. H. Woolley, of Chicago, read a paper on "The Application of Heat in Dentistry for the Destruction of Pathogenic Germs." In the discussion it was denied that sufficient heat could be applied to the teeth to kill microorganisms, but it was agreed that by getting the teeth thoroughly dry germicides acted more readily.

Dr. C. R. Taylor, of Streator, Ill., read a paper on "Metal Posts for Anchorage of Fillings in Incisors and Cuspids." This method was used considerably twenty years ago, but at that time a thread was cut on a gold pin and this was screwed into the tooth, while Dr. Taylor's plan was to anchor the post with cement.

The third paper was by Dr. G. V. Black of Chicago, on "The Welding Property of Gold, with Demonstrations." The chief point made was that gold should be thoroughly and uniformly annealed. He recommended annealing over mica instead of drawing through the flame of a lamp. Many of the facts in this paper were given to the profession in 1869, in an exhaustive article by Dr. Black before the Illinois State Dental Society. At that time the important fact was first made public that to make a cohesive gold noncohesive it was necessary only to subject it to the vapors of ammonia.

The paper which probably elicited the most discussion was the one read Monday night by Dr. J. Taft, of Cincinnati, on "The Influence and Power of Association in the Dental Profession." He gave a resume of the first society, and from that on those societies which had since influenced the profession for good. Dr. Taft omitted one important organization, the Dental Protective Association, but the discussion brought out the fact that this, probably more than all other associated effort combined, had benefited and strengthened the profession.

Dr. E. S. Talbot, of Chicago, gave a paper on "Degeneracy as Applied to Deformity of the Jaws and Irregularity of the Teeth," and gave quite in detail his observations in this and foreign countries. There was not much discussion, for, as one speaker said, the opinions on this subject were a matter of the future rather than of to-day, as not enough facts were known as yet to form definite conclusions.

conferred by a unanimous vote upon Dr. George W. Warren, chief of the operative clinic of the Pennsylvania College of Dental Surgery. Rutherford College is one of the oldest institutions in the South and has previously recognized members of the medical and legal profession in Philadelphia.

APPLICATION FOR PERSPIRING HANDS.—Borax, salicylic acid, of each 15; boric acid, 5; glycerin and proof spirit, of each 60. Apply with rubbing three times daily.—*Les Nouv. Rem.*, xiii., 601, after *Wien. Med. Pr.*

HEALTH IN CHICAGO.—The report for December, 1897, gives the total deaths during the month as 1,790, or 1.10 per 1,000 inhabitants, the rate for December, 1896, being 1.12 per 1,000. Of these 1,790 deaths, 361 were persons under 1 year old and 204 from 1 to 5 years. The causes were: Diseases of the nervous system 260, pneumonia 221, consumption 168, diseases of the heart 135, bronchitis 106, acute intestinal diseases 77, diphtheria and membranous croup 73, cancer 70, typhoid fever 35.

AUSCULTATION OF THE MOUTH.—Professor Galvagni calls attention to the valuable information to be derived by auscultation of the mouth in regard to incipient tuberculosis, etc. The rales are reflected from the bucco pharyngeal cavity as from a sounding-board. He also notes a peculiar jerky glottic sound, not in the inspiration, but commencing in the pause, attaining its height about the middle of expiration, diminishing and vanishing completely at the commencement of the inspiration. It coincides with the rhythm of the pulse, and has been noticed in several tuberculous patients, and in one case of gastralgia of uterine origin.—*Gazzetti degli Osp. e delle Clin.*, Dec. 5.

WHAT IS A SALT?—The term "salt" was originally applied to the residue obtained by the evaporation of sea-water. It was later applied to designate substances of a similar nature which, like salt from sea-water, were capable of separation into two distinct parts—a basylous and an acidulous radical, and from this idea arose the definition that a salt was a substance obtained by the combination of an acid and a base. The acids and bases, therefore, were not, under this definition, considered to be salts, but placed in a separate category. As the chemical constitution of substances came to be better understood, however, it was seen that there was no essential difference between the constitution, *e. g.*, of hydrochloric acid and potassium chlorid, especially when the solidification of hydrogen and the formation of alloys of hydrogen with metals like palladium furnished evidence of the metallic nature of the element hydrogen. Bases also exhibit, on consideration, the same kind of analogy to salts. For potassium hydroxid may be regarded as composed of the metal potassium combined with the radical hydroxyl. The term salt now includes both bases and acids, and its signification has been rendered much clearer by recent investigations on the condition of matter in solution. These tend to confirm the view that salts may be regarded as binary compounds of the general formula $MeRy$, in which M stands for any electro-positive group or metal and R for an electro-negative element or acidulous radical. When dissolved in water substances of this nature undergo more or less dissociation into their ions MeR , which carry electrical charges equal in quantity, but of opposite sign.—*Pharmaceutical Journal*.

- 597,235. Wetter and wiper for dental grindstones, Oscar B. Brann, Washington, D. C.
- 597,099. Artificial tooth, Houston M. Carroll, assignor of one-half to J. P. Oldham, San Antonio, Texas.
- 597,278. Barbers' chair, Charles W. Fischer and A. J. Rollert, assignors by mesne assignments to Theodore A. Kochs Company, Chicago, Ill.
- 597,359. Fountain spittoon, George E. Johnson, assignor to Peerless Fountain Cuspidor Company, Fort Wayne, Ind.
- 597,384. Dental cuspidor, George Booth, Toronto, Canada
- 597,582. Teeth regulator, Miland A. Knapp, Minneapolis, Minn.
- 597,469. Dental plugger, Frank L. Marshall, Boston, Mass.
- 597,811. Disinfectant holder. Daniel N. Calkins, assignor to Rochester Germicide Company, Rochester, N. Y.
- 597,894. Disinfecting apparatus, Florence Carman, assignor of one-third to F. Meade, Philadelphia, Pa.
- 597,719. Gas-administering apparatus, Wm. A. Johnston and A. W. Browne, Prince's Bay, N. Y., assignors to S. S. White Dental Manufacturing Company, Philadelphia, Pa.
- 598,053. Disinfecting apparatus, Edward D. Lewis, assignor to W. C. Shields, St. Louis, Mo., and Cannon Chemical Company of Missouri.
- 597,781. Apparatus for administering gas, Paul Ring, assignor to Crane & King Oxygen Works, New York, N. Y.
- 598,242. Valve and gage for administering oxygen or other gases, 598,242.
- 598,103. Disinfecting apparatus, Wm. A. La Fave, New Haven, Conn.
- 598,295. Dental engine, James D. Smith, assignor of one-fourth to J. S. Andrews, Canandaigua, N. Y.
- 598,235. Dental appliance, Julius Weiss, Vienna, Austria-Hungary.

TRADE MARKS.

- 31,003. Dental plugs or other fillings for teeth, either temporary or permanent, Edward F. Andrews, Detroit, Mich.
- 31,073. Fancy and perfumed soaps, perfumery, mouth-washes, tooth-washes, tooth-pastes and powders, toilet powders, hair pomades, and other oils and greases for toilet use; Lever Bros., Limited, Port Sunlight, England.
- 31,175. Tooth powder, Warren H. Poley, Philadelphia.
- 31,186. Chemical compound used as an antiseptic, Knoll & Co., Ludwigs-hafen, Germany.

(List furnished by John A. Saul, Patent Attorney, Washington, D. C.)

News Summary.

CORRECTION BY DR. BEERS.—Dr. W. George Beers, of Montreal, Canada, writes that he is making a specialty of consultation, but has not retired from practice, as was stated in our Canadian Letter for November.

DR. GEORGE W. WARREN HONORED.—At the winter semi-annual meeting of the senate of Rutherford College last week the honorary degree of M.A. was

PRESCRIBE LISTERINE

FOR PATIENTS WEARING
BRIDGE WORK OR DENTURES

AND AS A GENERAL

Antiseptic and Prophylactic Wash
For the Mouth and Teeth . . .



LISTERINE

Is kept in stock by leading dealers in drugs everywhere, but in consequence of the prevalence of the **SUBSTITUTION EVIL** we earnestly request **DENTAL PRACTITIONERS** to **PRESCRIBE LISTERINE** IN THE ORIGINAL PACKAGE.



LISTERINE is invaluable for the care and preservation of the teeth. It promptly destroys all odors emanating from diseased gums and teeth, and imparts to the mucous surfaces a sense of cleanliness and purification; used after eating acid fruit, etc., it restores the alkaline condition of the mouth necessary for the welfare of the teeth, and employed systematically it will retard decay and tend to keep the teeth and gums in a healthy state. **LISTERINE** is valuable for the purification of artificial dentures and for the treatment of all soreness of the oral cavity resulting from their use. Patients wearing bridge work should constantly employ a **LISTERINE** wash of agreeable strength.

LISTERINE is used in various degrees of dilution. One to two ounces of **LISTERINE** to a pint of water will be found sufficiently powerful for the general care of the deciduous teeth of children, whilst a solution composed of one part **LISTERINE** and three parts water will be found of agreeable and thoroughly efficient strength for employment upon the brush and as a daily wash for free use in the oral cavity, in the care and preservation of the permanent teeth.



LITERATURE DESCRIPTIVE OF **LISTERINE** MAY BE
HAD UPON APPLICATION TO THE MANUFACTURERS

LAMBERT PHARMACAL COMPANY,
ST. LOUIS.

Obituary.

DR. WM. B. VAN VLECK.

Wm. B. Van Vleck, D.D.S., died at his home in Hudson, N. Y., Jan. 14, 1898. He was born in Kinderhook, Nov. 13, 1818, and came to Hudson at the age of twenty-one. After studying dentistry for some time with his brother, Henry K. Van Vleck, he removed to New York city and for a year and a half was a student under the late Harvey Beddell. He then returned to Hudson, where he spent the rest of his life, following for over half a century the duties of his profession. Dr. Van Vleck was one of the organizers of the District Dental Society and never lost interest in its welfare. He practiced in this city but was well known throughout the state and always ranked among the leaders in his life's work. His son, Dr. Charles K. Van Vleck, was associated with him in the latter days of his active work, but about eight years ago ill health compelled him to abandon the profession he had followed so long and so faithfully. Political honors did not appeal to him. The pleasures of public life could not overcome his love of home. Of a retiring nature, he often refused offers of public positions, and sought his family and friends. Old in years he was young at heart, and the last days of his life saw no change in his kindly nature. His circle of friends was large, and though he had exceeded the allotted three score years and ten, he did not allow increasing age to interfere with the friendships formed in other days. He was of the old school, ever the genial gentleman, and to them there are no successors.

MEMORIAL MEETING TO DR. BOICE.

On Saturday evening, February 12, the Philadelphia County Dental Society held a memorial meeting to pay a just tribute of esteem to Dr. Alonzo Boice, who died February 2, 1898. The members present each in turn spoke of his many virtues; and letters were read from many members who were unable to be present. A committee was appointed to draft suitable resolutions.

The following were unanimously adopted:

Whereas, in the death of Dr. Alonzo Boice, the profession has lost a public spirited and liberal hearted supporter; and his family a most kind and devoted member.

Resolved, That we, the members of the Philadelphia County Dental Society, of which Dr. Boice was a prominent member, do hereby express the sense of the deep loss that we have suffered in the death of our late associate, and record the expression of our feelings and sympathy, and,

Resolved, That these resolutions and the minutes of the memorial meeting be entered at large on our minutes, and a copy of the same be published and be sent to his bereaved family.

Committee,	{	L. ASHLEY FAUGHT, CHARLES E. PIKE, JOSEPH R. C. WARD, P. V. GUERRY, JOSEPH HEAD.
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Sanitol.

The New Liquid Antiseptic.

For the Teeth and Mouth.

The Ideal Dentifrice.

The only dentifrice with formula published, advertised exclusively to the Dental and Medical Professions.

In this preparation is embodied the lately discovered coal-tar derivatives, Formol and Salitrol, recognized by chemists as possessing the highest antiseptic properties known.

Embracing These Features

1. Retards Decay.
2. Removes Stains.
3. Hardens the Gums.
4. Purifies the Mouth.
5. Sweetens the Breath.
6. Cleanses and Whitens the Teeth.

It has received the endorsement and commendation of the dental and medical professions throughout the world.

No acid, no soap, no grit. Absolutely Harmless.

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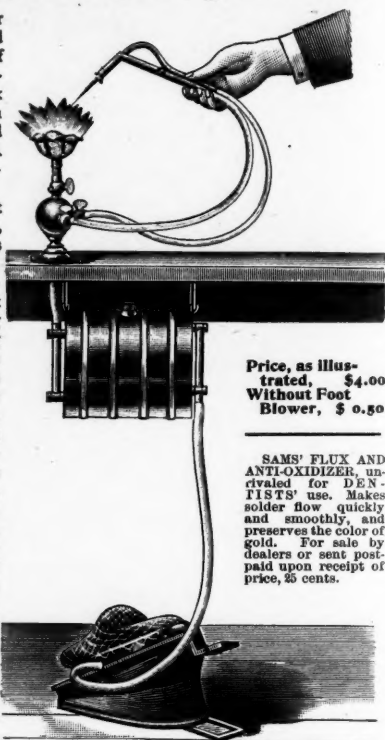
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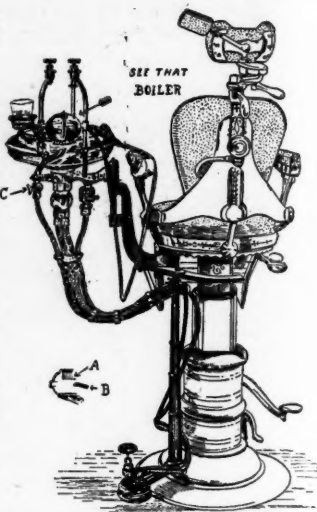
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